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BOARDWATCH

MAGAZINE

Guide to Electronic Bulletin Boards and The Internet

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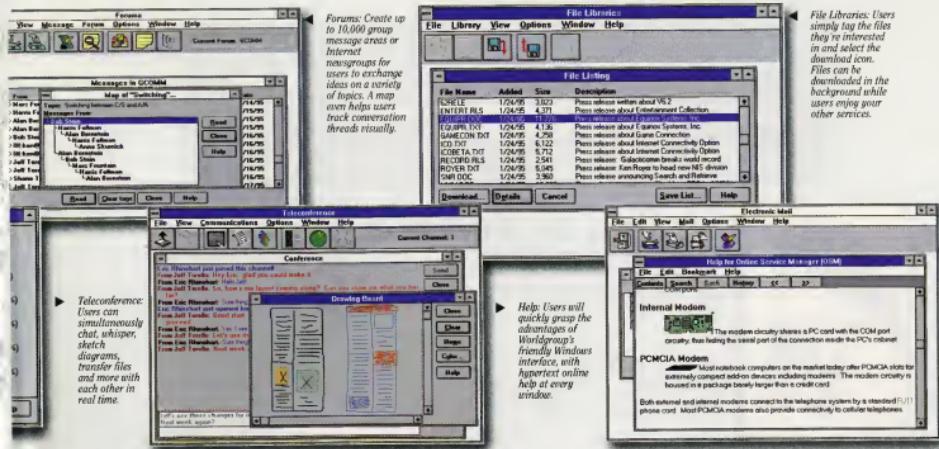
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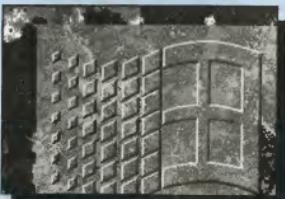
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EDITOR'S NOTES

THE SECURITY PARADOX

I have held my peace regarding the latest spate of "hacker hysteria." But I cannot longer. There is little gain in defending such activities, and unfortunately, that leaves few to do so. The current frenzy to put the malevolent Kevin Mitnick in jail for 37 years bears some comment - both about the equity and wisdom of our reaction to this as a society, and further on the wider topic of "Internet Security." Actually more on the latter. I'm appalled at the naivete at play here.

By now we've all heard via a variety of media how Kevin Mitnick, hacker extraordinaire, was tracked down by the cunning security whiz from California, tracked to an apartment in Raleigh, North Carolina, and arrested. He is quite widely reported to be facing 37 years in jail. And the world will be a safer place.

News flash. It isn't any safer. Mitnick did nothing wunderkind, his supposedly cunning adversary was a boob in public, and Kevin Mitnick probably doesn't deserve 15 minutes in jail. I've heard repeatedly that he "stole" 20,000 credit card numbers from Netcom. That he "hacked the WELL" and so on; in a litany of hysterical misdeeds he did perform terrorizing the network. Well it's time to blow the whistle on this nonsense.

Mitnick has a long history as a "hacker." What hackers do is wend their way through the networks breaking into computers for the challenge of it. Once in, they typically grab a file that could only come from that system, a trophy basically, and move on. If anyone questions their claim to have broken into a particular system, they can always show the trophy file. Seems dull sport to me but we all get our thrills where we can.

Mr. Mitnick seems to have encountered a virtually wide open computer run by a supposed computer security consultant, and as a hacker thing, moved about 128 MB of files off his computer onto THE WELL using the largely dormant Computers Freedom and Privacy account at the WELL set up by Jim Warren a few years ago. You should read here a ton of implication about "computer security consultants." Mitnick also accessed the Netcom computer and Colorado Supernet's computer. Any stories of "dam-

ages" he caused at any of these sites are thoroughly contrived. And most of whom I've spoken with in these organizations are a little uncomfortable about how far all of this has been taken.

As to the 20,000 credit card numbers, there has been no proof or even an accusation that he charged as much as a pack of cigarettes or a single pizza to any of them. In short, the total "damage" Mitnick did with his hacking activities probably amounts to about \$1.25 and we're spotting the first buck of that as a freebie for the sake of argument. We do know that Colorado Supernet did manage to thoroughly inconvenience thousands of their paying subscribers while they ineptly tried to play spy vs. spy with the FBI and Mitnick. But that's not precisely Mitnick's doing. It can be really frustrating to have someone online access your system in ways you didn't plan, and we're sympathetic to the WELL, Netcom, and Colorado Supernet in this regard. People shouldn't do that. But they do.

The bottom line is that Mitnick is charged with an assortment of paper crimes and faces years of imprisonment with little in the way of a crime or a victim in the entire scenario. In an age where the average sentence served in this country for rape is a little over three years, there is something grossly and widely awry here. And it stems from our woefully distended fears over security on the network. Making an example of Mitnick with 37 years in jail won't fix it.

And let me set your mind to rest about security on the Internet. THERE IS NO SECURITY ON THE INTERNET and I don't think there can be. I don't even think there should be. There will be millions spent on "firewalls" and "transaction authentication systems" and so forth over the next few years and all of it is stupid money spent on snake oil. Let's take on a few sacred cows here.

First, the UNIX operating system and the entire Internet are based on open systems. Securing them is almost intrinsically an oxymoron. Much of the Internet is designed so others can use it quite freely and in fact it works very well BECAUSE it is based on this. By way of example - electronic mail. It is hardly a hack to "spoof" mail - send an e-mail message claiming to be someone you are not. The reason is that the Internet sports thousands of "promiscuous" simple mail transport protocol (SMTP) servers. You don't have to be Kevin Mitnick, or any kind of programmer, or any kind of genius, or even barely awake, to perform this little trick. I'm going to show you how. I don't real-

ly want you to do it. But some awareness of how trivial this is, is really rather central to the discussion and will hopefully debunk the "genius hacker" myth.

Basically the steps involve:

1. Decide who you want to be.
2. Configure any sort of mail program to be them.
3. Point it at almost any SMTP server.
4. Send a message.

PC Eudora is one of the more popular PC mail programs. It works over the network or via a SLIP/PPP account just peachy. It has a simple configuration setup. The first item in it is POP Account. Let's fill this out to be AL.GORE@WHITEHOUSE.GOV. The second element in this config is REAL NAME. We don't want to get confused here - let's enter AL GORE for consistency. On RETURN ADDRESS, let's also put AL.GORE@WHITEHOUSE.GOV. Finally, there is a field for SMTP server. This is supposed to be YOUR SMTP server for your host. Actually, it can be almost ANY SMTP server ANYWHERE. You don't need an account. You don't need a password. You just have to know a name. We're going to say NETCOM.COM. We may be asked for a password every few minutes by PC Eudora when it tries to RECEIVE mail. We're not wanting to receive any right now, so ignore it.

Now we send a message. It doesn't matter how we are connected to the net, or who our legitimate host is. They don't get to vote on this one. We are going to send the message via NETCOM.COM and they will resend it, dutifully reporting in all respects that we are AL.GORE@WHITEHOUSE.GOV. For most receiving the message, it will appear closely enough that we are *me* in the mail header. So now we can go around sending mail to anyone we like as the Vice President. We can send mail to newsgroups, to the president, to the president's wife, to Newt, to anyone we like (or don't like) and unless they look VERY closely and know what to look for, they just received an e-mail from big Al.

Note that we have not employed a lot of computer genius here. Not a line of assembly language or whizbang C++ code. We didn't try 20,000 passwords. But we can't screw up Al's day. You could probably alter national politics with a few choice messages from the right people to the right people. Or drive Tipper into a frenzy.

And this can certainly be damaging on a less national scale. Messages from competitors announcing their bankruptcy to a few very

public newsgroups can be quite damaging. You can cause a rift between two longtime associates or friends. Kill pending mergers with just a message or two. And on it goes. Internet World canceled. Sorry Al Meckler. Just kidding.

The heart of this is of course that the SMTP server at NETCOM will receive mail from virtually anyone, claiming to be anyone, and will dutifully forward it. I call these "promiscuous" SMTP servers and they are everywhere. In many ways they are a GOOD thing and don't jump to the conclusion that Netcom has created a security hole or done a "bad" thing. They have done an Internet thing. If they shut it off, tens of thousands of legitimate PC Eudora users or other POP mail users will be badly inconvenienced and we have accomplished nothing. Shut off Netcom's and we only have a couple hundred thousand of these to go, and by the way, if there is ONE left anywhere, it can still be done. Anyone with a PC can run one. My point is, don't go off on Netcom. They are one of the more reliable Internet Service Providers and do a good job in most respects. It is how the network works. And it is philosophically grounded on being open and available. All of it's workings work that way - mail, domain name service, all of it. When you speak of methodologies to make it secure, you are plotting its death.

Not only that, you will fail in your stated purpose while you kill it. You won't get secure. I know of no group of people more security minded and paranoid than the current crop of Internet privacy geeks. They are so into privacy that THEY don't even think they should know what they are doing. One of their darlings is the concept of anonymous re-mailers. These allow you to mail e-mail messages and disguise behind layers of tech-no-wool the very concept of who is sending the message. You get a message from them, and you don't have a clue who sent it. The most popular of these was one set up in Finland in 1992 by Johan "Julf" Helsingius titled anon.penel.fi. Anon.penel.fi was last reported to be handling 7000 messages per day from 200,000 users. They send messages addressed to whoever but via this anon.penel.fi and it arrives with no indication whatsoever who it is from. Oh, you get an anonymous code and you can actually reply to the message but you can't find out who sent it - so the theory goes. The technical chicanery required to do this is at least amusing.

In late January, the Church of Scientology got into an imbroglio with a good part of the Internet over some CoS information that got into some newsgroups. Whatever you might think of the Church of Scientology, those people are fanatics and they delight in making the life of anyone who talks about them in any way they dislike into a living hell. And they're pretty good at it. So the battle was on. Some of the people on the net were saying "bad" things about CoS and using internal documents for ammunition. CoS claimed these documents were copyrighted and no one had the right to use their own info against them and it was all "stolen" and the

results of computer "burglary" etc. ad nauseum. One of the posters in the newsgroup discussing all this started posting from anon.penel.fi - anonymously of course. On February 2nd CoS reps accosted Mr. Helsingius demanding the true identity of this poster. He demurred. By the 8th of February, the Finnish police served him with a warrant for search and seizure and he did immediately cough the identity of the anonymous mailer. Within an hour, the CoS informed him they had the information. So the vaunted anonymous mail server wasn't quite as anonymous as everyone believed. And a private religious organization was quite able to "break" the security without a single line of code. They just asked for it in a not-nice way. And they got it.

So let's talk about credit cards. Recently, Netscape and others have been making all sorts of waves over the need for "secure transactions" particularly for credit cards. The impression is that you can't buy or sell anything on the network until this credit card security problem is solved, and of course they have a solution for that. Poppycock. Things are bought and sold by credit card over the net every day and with probably less damage than anywhere else.

Think about this for 20 seconds and promise me 1/2 of one percent of your available gray matter for this dedicated task. About 75 times per month you hand your credit card to people who work in gas stations for minimum wage. They handle hundreds of credit cards per day. You phone your credit card number to phone banks in boiler rooms in response to sleazy infomercials at 3:00 am. The nice lady at Target department store, or any of the twenty others there that day, has access to THOUSANDS of credit card numbers. Any of these people can write down your credit card number, along with dozens of others, on any greasy napkin in their pocket and make off with them. Who will miss a few stolen numbers? There is even a market for them. They can sell the numbers and never actually risk fraud. And the concern on the net is that putting one in an e-mail message that goes out in a river of data gigabytes wide is not secure? Secure from what? If you encrypted it to a billion bits, someone on the other end has to decode it to use it, and THEY can write it down on a greasy napkin and make off with it just as easily.

Once they do, they have to charge something to it. Read this. Credit card fraud is a two billion dollar business now. It has nothing to do with access to the numbers. You as card holder don't pay these fraudulent charges directly. If you see one on your bill you can call the card company and just tell them you don't know what this is for, and they remove it. We all pay for this via the usurious 15% interest rate, and we do it for the convenience of having credit cards. There are some serious efforts at stemming credit card fraud, and NONE of them revolve around making a big secret out of what your credit card number is. They have to do with identifying those who fraudulently change things to other people's credit cards. No authentication procedure on the net can help or hurt.

Charge up to your limit - with cheap unsecure software.

The philosophy is that the net BE open and there is a reason for that. It's so people don't grow to rely on glitz tech-nobabbles to protect what they need to protect. And that's because ultimately they don't work. Sooner or later, they will fail at some level - usually the human. And the greater the reputation they have for being secure, the more likely it is that someone will grow to rely on its BEING secure and trust it with valuable or damaging information. And it never can be totally secure.

Let's call this the "security paradox." The more secure the security technology, the more likely people are to rely on it. The more they rely on it, the more likely it is to ultimately fail, and the more damaging the ultimate failure. So if you HAVE NO security on the net, you have already attained the maximum security possible. All attempts at security DECREASE security ultimately.

If you expect it to be open and full of holes, you don't trust it with anything that can hurt you. If you believe an anonymous re-mailer is impervious, you might mail something important COUNTING on the fact that you are anonymous. You aren't. If you receive e-mail from your business associate that isn't in keeping with your normal relationship, don't assume they've undergone a personality change as the result of hormone therapy. Respond to the message and quote what you received and ask for verification. Or call them. It's retro, but it works.

In short, the Internet works because it is open and useable. But it is quite public, and all users of the Internet should assume it is quite public when they use it. If you think a congressional blue ribbon investigative panel, or Pretty Good Privacy, or encryption in general, or some company with the latest security "firewall" is going to protect you, you are playing with fire. And a computer security consultant not only isn't going to help, but they're the kind of people the Kevin Mitnick's of the world steal files from.

As always, the real world analogy still holds perfectly. The truism about locks on our homes and cars has long been "locks are to keep honest people honest." They never did stop a determined thief. Put the best locks you can on your local machine, and let the net be what the net is - a public thoroughfare - with all that implies.

Jack Rickard
Editor Rotundus





Letters to the Editor

Boardwatch Magazine
8500 W Bowles Ave Suite 210
Littleton Co 80123

Hi Jack!

The following may seem like a trivial point, since you are trying to pave the BBS community unto the on-ramp to the information superhighway.....Since most of us are trying to gather information on "getting on the ramp", and saving up to actually connect to the information highway in a "big-time way". Could you maybe provide ways to FREQ files in the traditional BBS way?

What I mean is... you keep mentioning MOSAIC, WINSOCK.DLL, etc., etc., but you always provide InterNet addresses for obtaining the files.

Most of us out here in the real BBS world... still do not have access to the InterNet. Even though we are making plans to get there in a BIG way!

How about some FREQable listings for all these wonderful files?

I'm not criticizing my favorite magazine, just feel that something has been overlooked here...

Thanks!

JD

Fido: 1:135/379
Inet: jesus.dacal@sunshine.com

Jesus:

Noted. We'll try to have such programs FREQable from 1:104/555 in the future.

Jack Rickard

WHERE THE WOMEN ARE?

Dear Jack,

Couldn't help but respond to your on-going conversation about women and computers in the December issue of Boardwatch. (You were writing a letter from Amy.Stinson.INDY.COM, formerly of NVN).

I'm a sysop on Delphi, I'm female. I never was on NVN, but I was aware that there were a lot of women there and when they

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folded many, many of the NVN folks came over to Delphi and were made more welcome on Delphi than on any of the other services. Some of the NVN sysops were very happy to discover that they could open up their own Custom Forums on Delphi. When I joined Delphi over a year ago there were about 110 Custom Forums, now there are over 400. Many new ones were begun by former NVN members, but any member on Delphi can start her or his own CF.

I have two custom forums: Textile Arts Forum (TAF), CF135 and Travel Talk Forum, CF96. (BTW, tooting my own horn, but Travel Talk Forum got a "4-Star award" in the first issue of Net Guide as being "head and shoulders above the rest").

How did this particular woman come to be on line and a sysop? Well, I'm not sure exactly, but Amy is right - my son has grown up, my husband isn't the computer buff in our family so he's not interested in challenging me for computer access time, I have a business which allows me to stay home mornings so these areas of freedom are important for my situation. BUT, on my custom forums this is not true of everyone. Here are a few short profiles of a few of the women:

A programmer in her early 30's with 3 young boys at home. She writes shareware for turning gifs into needlework charts "to keep her sanity" and has a successful time selling it as shareware.

A mother and daughter pair of quilters/needleworkers who no longer live near each other and use Delphi to chat and also both meet on my forum.

A mystery book author (several published and selling well) who knits as a hobby and also has her own Custom Forum on Delphi in another area.

A military wife who is job hunting and has a 9 yr old daughter.

A retired woman whose husband is bedridden with a stroke and decided to get online for companionship while she is home with him. She also uses the excellent Internet connections from Delphi to retrieve stroke research information. She is a published textile author.

A travel publicist who works with nations and airlines and visits the Travel forum for fun when she is home.

A young woman who just finished her MA and is starting her PhD in a study of women in cyberspace. She also happens to be a weaver and a handspinner.

Many more stories where these came from !

I had no previous online experience, my background is biology and textiles. I am not a programmer, I've never run a BBS. I've used a PC for years for the usual things, but only got my modem a month before I joined Delphi. I joined Delphi to get "at the Net". I'm an information freak. And they didn't disappoint me! I have now, in my own forums on Delphi, been able to connect my own gopher to sites of interest to my members (it makes their learning curve much less steep since they can access things right from my menu). I have the pertinent (and some not so pertinent) USENET groups attached to my menu too. (Yes, I know that alt.food.chocolate is NOT a textile newsgroup, but we all like chocolate so...). Then, like you, I have started falling in the state of webbiness! Delphi has seen things up so that we can hook up WWW sites right to our Custom Forum menus! (text only, but that is fine since it is much faster that way and we can download images if we want to.) I did visit that Louvre site last week, very nice! That is being attached to my Travel Talk menu, too.

And, I agree with your assessment in your editorial that what a lot of people want on line is conversation and software. Therefore, each Custom Forum also has a live conference area (where we meet weekly to chat) and a database which I have crammed with shareware (yes, shareware for using knitting machines, handknitting, quilting, Xstitching, lace making all exists!), gifs (bought a color scanner to scan in the work my members do for all to see their art), and text files (an electronic version of a textile publication from New Zealand, articles on dyeing and history, and so on).

The Travel Talk forum has a mix of men and women, more men than women. The Textile forum welcomes men, we have a couple who are regulars, but for the most part it is all women. Many of the women who join

up have no idea what they are doing at first and within a week or two they are doing very well. There are fewer flame wars among women, when they happen they are conducted in a more compassionate tone. I have a neutral username and I often don't show my gender on the Net - I'm usually assumed to be male because that is who is out there. But, times are a-changing! Women are on the increase without a doubt.

I got a bit long-winded here, but this IS an interesting topic.

Am enjoying your magazine a lot!

Susan Druding
drudings@delphi.com

Dear Susan:

It is indeed interesting. The online service that figures it out will win in a big way. What I'm hearing is have a topic that's in itself appealing to women, and then make the place welcoming. So why do you use a gender neutral username? Just one of the guys?

Let me posit a critical mass theory. Might it be not so much that the topic is crucial, as that it is a topic that would be thought to attract women, so does, and from some point becomes a place where the women aren't so hopelessly outnumbered by guys that they can fight them off? In other words, would women be more attracted to ANY topic if they thought that at least half the people there would BE women in the first place?

Jack Rickard

Dear Mr. Rickard:

I am sitting here with the December, 1994 BOARDWATCH open on my lap, staring in disbelief at page 57, which contains the table headed "Guide for International Voltage and Electrical Outlet Plug." As I read down the table for the first time, I noticed that a very significant omission, more startling because the omitted country has a high-technology industry and is fully wired in to the Internet. I know this because I have been there, and I communicate regularly by E-mail with friends and acquaintances there.

As you are probably well aware, the country of which I speak is Israel. I am unable to understand the basis for its omission from this list. The list contains smaller countries, isolated third-world countries, and even countries unfriendly to the U.S., such as Iraq and Iran. It is hard to understand why Israel was omitted — unless either it was a political decision (either by the writer or by BOARDWATCH itself), or the result of an attack of extreme incompetence at BOARDWATCH.

Omission of Israel from the list as a political decision is unacceptable to me; I am sure that it will be unacceptable to other readers as well. Israel is a member of the United Nations in good standing. Even the "Zionism is Racism" resolution of the 1970s has been repealed. Although Israeli contributions to the UN Rwanda relief operation (a medical team and field hospital that saved many lives during the cholera epidemic) and the American effort in Haiti (a police team to assist in training Haitian police in tactics less brutal than they had been using) have gone completely unnoticed by the American media, most Americans are aware that Israel is a democratic country which is trying to make peace with the enemies surrounding it. Given the presence on the list of many undemocratic countries, omitting Israel makes no sense.

I hope to receive an answer to my question regarding the omission of Israel by E-mail. If you decide to answer only in BOARDWATCH (in an issue that, due to publication lead times, will not come out for several months), I am unlikely to see it. I am afraid that, unless I am assured that the omission of Israel from an "international" list was inadvertent, I will have to conclude that it was a deliberate political decision. And that would make it incumbent upon me to make a political decision of my own to stop buying BOARDWATCH.

Hope Ehn
<ehn@world.std.com>
author of "On-Line Resources for Classical & Academic Musicians."

Hope:

I'm staring in disbelief too, Hope. Yes, it was a deliberate "political" decision. As one of our more subtle plots, we conspired to omit Israeli electrical power from Boardwatch Magazine in a kind of slyly cunning political statement designed to denigrate Israel and the entire Zionist world. Unfortunately, you were too cunning and too observant for Boardwatch. And you can rest easy tonight knowing that through your keen-eyed watchfulness and ever ready preparedness you have once again saved the Jewish community from the onslaught of the Gentile hordes, ever ravening and ready to ravage your cause and way of life. Only the vigilant souls such as yourself, Hope, stand between your group and catastrophic world disaster at the hands of computer journalists everywhere. You no doubt take no small pride in your role as "watchtower of electrical connections" for the Jewish community.

I love this stuff. But tell me. What do we have to do to plug in our laptops on YOUR planet?

Jack Rickard

Jack,

Keep up the good work on Boardwatch. It was very helpful to me in setting up my BBS.

In the Feb. issue in a response to a question, you used the phrase "death of Fidonet." Could you briefly explain what this is about? I have been thinking about connecting to Fidonet (already have Internet) and was wondering what the future of it is.

Thanks!

Gary Dudley, Sysop - North State Online
(910) 591-8512
gddudley@northst.com

Gary:

I'm not sure where I said that, but someone has predicted the "death of FidoNet" every year since 1984. It may have been tongue-in-cheek. I think the emerging use of the Internet takes some of the blush off the rose for FidoNet. And there have been some particularly nasty squabbles here in Net 104 as well as nationally over various items. But it remains a very low cost way to pass mail between bulletin boards and in many countries remains the only way to pass mail inexpensively. I wouldn't look for it to die soon.

I would note that the man who started FidoNet, Tom Jennings, no longer runs a Fido BBS, and has emerged as one of the most progressive Internet Service Providers in the Bay area. Life goes on and moves on.

I personally lost some interest in FidoNet when it finally dawned on me that for private person-to-person e-mail, it just wasn't working. The BBS operators generally reserved netmail for themselves, and it became a bit of a sysops e-mail network. Callers could post in echomail areas, but on the majority of boards, they simply could not send e-mail. So several years ago we began looking at ways to link BBS message bases with the Internet mail system (seems quaint now, but it was an issue then).

But Fido continues to carry echomail conferences you may have an interest in. It costs little to make the connection. I don't think you can lose with it. It just may not have as much to offer by way of gain as it once had.

Jack Rickard

Hello, Jack

First, let me say that I really enjoy your magazine! I always get a laugh watching you nip someone or something in the butt in every issue....

But I do have a suggestion, or maybe a complaint depending on how you feel at this moment <g> I have noticed allot of your resource and pages covering the Internet, to

the point that it seems that is about all that is getting attention anymore, I started reading BW because it was very helpful and full of all sorts of info, but over the last few months all I see is "InterNet" I also am interested in it, I would still like to see an equal amount of effort put into what BW has always been.....

On another note I noticed in the small listing of boards you always have at the back of BW that there isn't any within the 205 (Alabama) area code..I run a small Synchronet BBS system here in Cullman AL. It isn't the biggest in the world but folks like it and since I spend allot of time with the "Newbies" they feel it is a home for them.....

So if you feel like adding a new one to your little list I would love to be listed in it, or give it a call anyway should you get the time.....The info is as follows:

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Description - Nice Hometown System. Files, Doors, Mail and Chat.....

Thanks for your time and keep the world straight as you can!

Jimmy Bonds

Jimmy:

Perhaps we differ on "what Boardwatch has always been." Broadly Boardwatch has been about whatever moves online and seems significant. More narrowly it is about what I'm particularly interested in this month. I would look to increasingly devote MORE resource to Internet and World Wide Web coverage, until the point something else comes along more fascinating at the time. I doubt that means we will no longer cover bulletin boards as you define them. But the world moves on. From my perspective, we are still covering what we've always covered, but bulletin boards and callers themselves are changing and the Internet is part of that.

Jack Rickard

Dear Mr Rickard

I work in a Bookstore and I also have been running a BBS for 4 years. Since working in the Bookstore I have have had access to your magazine from the beginning and have found it very insightful in the PAST, with the keyword being PAST. I have been noticing over the past year that more and more your magazine has been trying to position itself to become a INTERNET magazine. Now I run a BBS that has E-Mail and has the Usenet Newsgroups (Via Satellite) and I for one can tell you that your magazine has lost it's way! The Internet is great yes, but it is not what your magazine should be about when it's titled BOARDWATCH, instead you

should be considering a change of "INTER-NETWATCH" more and more pages are being devoted to covering the net and not covering recent changes in BBS software or how to get more users on our BBS's and this is what built the following you now have. I for one am glad I never had to subscribe, although I usually did purchase your magazine I now only look at it while on my lunch break at the store. So PLEASE take a step back an see the direction you are going and try not to lose the people who made your magazine what it is now.

Thom Davis
thom.davis@confedbs.aldhfn.org

Thom:

The people who made it what it is now are our subscribers. We constantly take a step back to evaluate the direction we are going, and right now I'm pretty happy with the direction - and with our existing title. We'll miss you Thom.

Jack Rickard

Dear Jack:

I am reader of your magazine from the time I was director of the project that introduce Delphi in Spanish in Venezuela. Last year I was sent to Miami to expand our online service, now called ITINET, to other countries in Latin America and the US.

I answered the email from Melody regarding Spanish Language BBS and sent her our information. At the end of this email I am sending a short note of the services we provide in Spanish and English. We are the only online service in Spanish dedicated to the integration between the US and Latin American countries.

If you need more information, I will bee very glad to send our contribution and may be you can publish something about Latin American efforts to be on line. I can help you on that matter.

Best Regards
Saludos Afeciosos

José G. Lepervanche
j@itinet.net
ITINET
The Worldwide On-Line Service in Spanish
169 Lincoln Road #210
Miami Beach, FL 33139-2047
(305) 674-1001 (voice)
(305) 673-1131 (fax)
(305) 534-4440 (modem)
it@itinet.net (Internet)

Jose:

Activity in South America continues at an impressive pace. Dave Hughes recently spoke at a gathering in Venezuela and returned

with glowing reports. Anything you can do to keep us posted of progress in this area would be appreciated.

Jack Rickard

From: Senzer@pipeline.com
To: Letters
Subj: BBS SURVEY

Dear Jack,

I was quite interested in the results of the BBS operator fax survey you published in February. Unfortunately, I don't think your presentation did justice to your data.

You presented the "average Boardwatch reading survey answering BBS operator" as a set of numbers based on the mathematical average of your data. Many of your readers probably equated these statistical averages with "typical." Somehow, I doubt if your numbers represent an image of the most "typical" BBS responding to your survey.

The problem is that computing an average makes sense only if a histogram of your data shows a distribution that at least vaguely resembles a bell-shaped curve. From your discussion of the data I suspect that you had at least one BBS respondent that was MUCH larger than most, and only you know what the rest of the distribution looks like. This situation makes the use of averages useless at best and misleading at worst.

What I would suggest you do is present the data as a series of histograms, in which you plot data such as income or number of callers along the horizontal axis and number of BBSs at each level on the vertical axis. If you don't want to use that much space, you can describe the data verbally by dividing the responses into a reasonable number of levels and telling what percentage of the BBSs fell into each.

That said, I assure you I'm not trying to nitpick. Your survey is probably of great interest to many Boardwatch readers, certainly this one. I have plenty of ideas for my own BBS which I hope to start within the next year. (I'm looking forward to attending ONE BBSCON for the first time this summer.) What I'm really looking for is a better view of the data you collected in order to get a picture of what other BBS operators are doing. Thus I urge you to re-present the data. And as a suggestion for a future survey, it would be interesting to learn more about the types of content these BBS operators provide.

Steve Enzer
senzer@pipeline.com

Steve:

I don't think the averages were all that skewed. It was a pretty broad range, but not as swamped from either end as you portray

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it. I'm guessing histograms would pretty much put me to sleep. The data is what the data is. I made no attempt to pretty it up very much either way.

We have done a couple of these surveys and received a surprising number of responses. I guess I think the self-selecting nature of the response does more to skew it than the presentation. But these reader surveys may hold more potential than I thought. If you would like to design a series of questions regarding content or anything else for either operators or callers, we would certainly consider it for a future survey.

Jack Rickard

Dear Jack,

I'm an avid reader of your mag and look forward to each issue. I am pitching a feature story for a local computer mag, "Interface" in Portland ME, on some of the local BBSes. The Editor liked the idea, but met with some resistance from local, industry folks (I read this, "advertisers") who claimed that BBSes were a passing phase for online services. I happen to disagree for a variety of reasons. In addition to sharing your recent survey results with this editor, I'd welcome any thoughts you might have on this. While all the world's afire with fiber optic cable/phone connections in each home, I trust the local BBS operator, who may offer only e-mail and Usenet to customers, with better service and fairer prices. What good is this fast connection if it is not going to be affordable? In addition, no one has yet explained how the upkeep on the Internet will be funded once everyone is connected through their cable company, etc. Thanks for any input you might be able to forward to me.

I must take this opportunity to praise the EXCELLENT service I recently received from your subscription service. I neglected to forward a change of address to BW until I had missed 2 issues. The service person asked me if I would like the back issues with no charge. Three days later they were in my mailbox. Outstanding and greatly appreciated. Thanks for a great magazine and terrific service.

Best Regards,

Steve Kelley
Skelleyp@biddeford.com

Steve:

I often think I must be completely and totally lost on what a BBS is and what a BBS operator is. Perhaps the Internet as well. For someone that spends all day and most of the night looking at these things, I certainly have missed something from the mail I receive.

The "Internet" WAS the province of a handful of academicians who used it for free e-mail at taxpayer expense. In the six years we have covered it, and most specifically in the last two years, it has entered a process of promulgation to the rest of the body politic in a number of useful ways. The most useful way is that it has become a common electronic backplane for bulletin boards and commercial online services.

There are only two groups historically that have ever brought modem communications to the masses, and the distinction between THEM is largely one of scale and price—large commercial services and electronic bulletin boards. They have provided the connection, the customer service, and the venue for the necessary software for ordinary Joes and Janes to make the online connection.

Nothing has changed. They still are. And if the 18 million BBS callers and 6 million large commercial service callers want the Internet, they will get it. Largely through the efforts of those same two entities. There is a third element popularly perceived, that of Internet Service Provider. Both commercial services and bulletin boards are becoming "Internet Service Providers". Tom Jennings who founded FidoNet is an Internet Service Provider. George Peace, FidoNet Coordinator for the World, is an Internet Service Provider. Randy Busch, another FidoNet pioneer, is an Internet Service Provider. Kevin Behrens of Aquila BBS is an Internet Service Provider. And many of the UNIX service providers recently took me to strong task, and perhaps rightly so, that they were in all respects and for all intents and purposes no different from BBS operators. I know these people. They're the same people. They do the same thing they always did. And they are doing it again—still.

So I get a little lost in the current craze to draw lines of demarcation between the Internet, the bulletin boards, and the commercial services. What are we talking about?

As to who will deliver the Internet, or any useful portions of it to callers at the least cost, traditionally this has been done by BBS operators. Who will deliver it in the most packaged, delivered, and advertised fashion? Traditionally this has been done by the CompuServe's and Prodigy's of the world. I don't see it as any different this time. Telcos and cable companies are no more capable of or likely to than they ever were. We talk about them much in the way we've always talked about them, as infrastructure providers to make the physical connection over wires.

Right now most bulletin boards do offer e-mail and at least some newsgroups to their callers. Those that don't will become irrelevant. As World Wide Web and full IP connectivity become more important to more callers, more bulletin boards will offer that as well. That is my view of bulletin boards as small online services operated on PCs. More impor-

tantly, bulletin boards are public discussion areas where e-mail is used in an open forum where all can read and all can post. They are little communities connected by wire using data. The GRAPHICS forum on CompuServe is a bulletin board as is the GENEALOGY forum on Prodigy and Gene and Katy Hamilton's HouseNet BBS in Maryland. They are communities online. How can they be a passing phase? They are why we make connections.

If the question is will people quit doing that to click on Web Pages to read sterile documents by modem. The answer is no.

There is a lot of evolution going on here, and there will be some structural and technical changes. But I don't think they represent the same change that others do. Hopefully it will have a prettier face and move faster, and some very interesting new tools will come out of it. But in many ways it will not only be the same, but it will be the same people doing it - for the same reasons.

Jack Rickard

Greetings Jack...

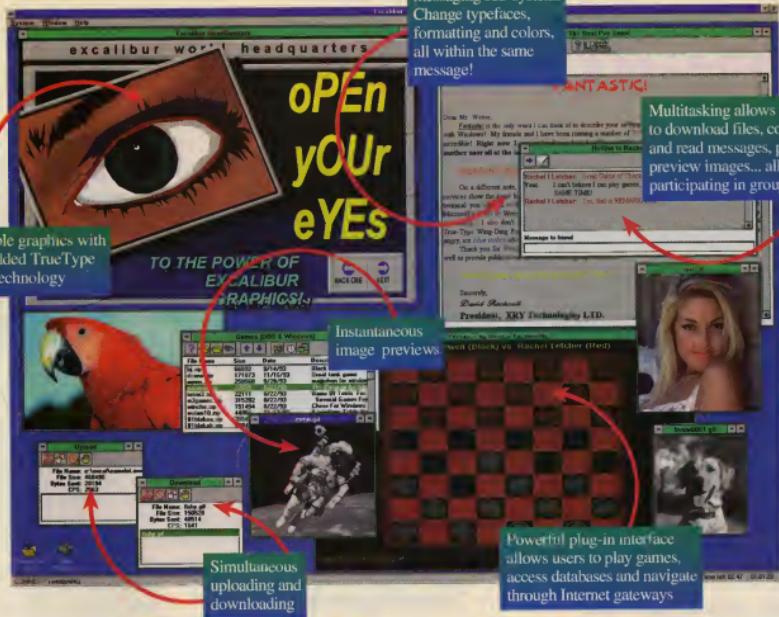
While STILL not a subscriber (I have been moving around too much in the last year), I buy your magazine every month. I enjoy most of the articles although don't necessarily agree with everything you say. However, cudos aside, you blew it once, kiddo!

A couple of months ago, a chap wrote asking how to connect his bbs to the internet. This is something that a lot of sysops who are not technocrats would probably like to learn. Instead of the short reply you gave, why not a full blown response?

I have had a number of bbs systems in the years and have YET to read, anywhere, an article that goes step by step into what I, as a sysop, have to do to get my board onto the internet so that users can log on, go to a menu and log onto the net. Yeh, I know, I need this that and something else, but what the heck is the this, that and something else. Everyone I talk to gives me a different answer.

How about, sooner or later, doing a step by step "how to" article, including what hardware, software etc is required, sample menus for some of the more popular bbs programs and an approximate budget? THAT would be a real service to us sysops who have managed, after months of sweating, to get the bbs to work properly (remember, not all of us understand much more than how to do ANSI screens, write menu commands and pray like hell that the system doesn't crash!)

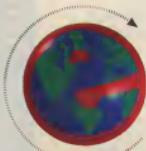
Also, as a suggestion, how's about a listing of bbs systems that can be telnetted via the internet? I am sure that that would be of interest to a great number of readers! I'd love to be able to log onto the net and then pop over to a new bbs somewhere else in the



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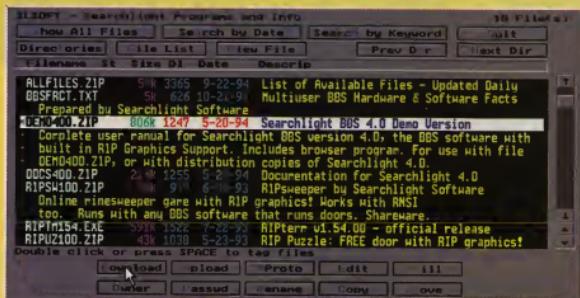
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The Remote Imaging Protocol by TeleGrafix gives callers the graphics and mouse support they expect; that's why callers prefer RIP. That's why BBS developers are scrambling to add RIP—and telling everyone that their RIP is "as good as Searchlight."

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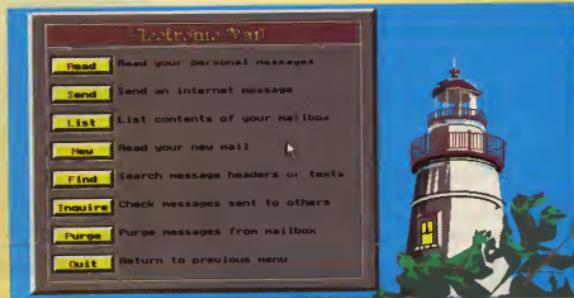
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The automatic menu generation in *Searchlight 4.0* lets you turn any RIP screen into a custom menu

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The screenshot shows a web-based storefront for 'FASHION ONLINE'. At the top, there's a logo of a person in a dynamic pose. Below it, the text 'Fashion Online' and 'Get It! from The Web's #1 Store'. A sidebar on the left lists categories like 'Product', 'Search', 'Sort by', 'Designer', and 'Designer: Pierre Cardin'. The main area displays a grid of products, with one item highlighted: 'Soft Leaf Print Dress' by Pierre Cardin. To the right of the grid are two small images of women wearing the dress.

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world just to chat with other sysops without it costing me an arm and a leg to AT&T.

Other than that, Jack, do keep up the good work. I missed the show this year but am already saving for next year's.

Cheers
Rob
globe@crl.crl.com

Rob:

Not a bad idea, just a lot of work. I have two problems here. First, the actual blow-by-blow on how to hook your BBS up to the Internet becomes very specific to the type of BBS system you currently operate, and what you mean by 'connected'. Is e-mail good enough? Do you need newsgroups? How about ftp and telnet? World Wide Web? SLIP and PPP connections?

Second, bulletin boards were NOT connected to the Internet and now many bulletin boards are making the connection. Obviously some software and hardware had to happen in the interim. It is currently very much happening. So some products are available, some a little bit available, some still very much in development. We are in an intense tool-building phase that would make a comprehensive article a little dated before print.

The BBS available by telnet list—by your command this issue.

Jack Rickard

Dear Jack:

I have an IBM compatible for 2 years now, and I have been running a BBS for about 2 weeks. I am pretty informed about computers from reading your magazine and other publications. But while know a lot of computer terms but I am not sure of the proper pronunciation of most of them. When calling my UUCP (I pronounce it U-U-C-P) provider or other sysops I am not sure how to pronounce things. What I usually do is pronounce the letters by name like URL used to be U-R-L until I read the last issue of *Boardwatch*. Can you give me all the pronunciations for common computer and BBS terms....Like how do you pronounce uencode (is it U-U-encode)?

Thanks for your time,
Joseph LiMandri / The Gateway (718)353-6994
joseph.limandri@rex.com

Joseph:

It's a little hard to do pronunciations in print. But you bring up an interesting point. For a long time I pronounced UUCICO you-see-eye-see-oh. Later, I heard several people pronounce it you-you-ki-ho. I still don't know.

Of the three you present, I think you've got all of them correct.

UUCP - you-you-see-pee
URL - you-are-el
UEENCODE - you-you-in-kode.

Jack Rickard

Hi,

I'm a WWIV support sysop which is also a beta tester of the WWIV bulletin board software, and also a proud member of the WWIVNet. I think your magazine doesn't talk much of the popular software that is WWIV.

WWIV v4.24 will be releases shortly, and people who accused the software to be behind other software package will be surprised.. The newest version actually has everything all other BBSees can have, the new features are really good. We are proud to announce that WWIV will be one of the first BBS package to advertise Local RIP after SearchLight BBS. So far, WWIVNet's system is the best there is and the easiest, compared to Fidonet, but of course Fidonet is more international, WWIVNet has a few nodes overseas only.

But the main attraction is the affordable source code. When you register WWIV, (for only \$8), you have the source code of the software and a great deal of available modifications. I am myself a good modifactor and amator C programmor, and I can tell that a well modified version of WWIV can beat many software.

WWIV is also one of the most popular BBS software up here in Montreal, Canada. 25% of the bulletin systems are using it. I am myself the author of the french version of the software.

To conclude, I'd like to give you the informations about the upcoming WWIVcon, which was a success last year. A little advertisement can only help.

Thank you,

Nicolas LeBlanc
FMD Software
SysOp of Alternative Worlds
WWIVNet1@20397
spotnick@gamemaster.qc.ca
IceNEWS WWIV-Specific Editor

WWIVcon '95 in Buffalo/Niagara Falls
Dates: July 7-8-9, 1995

Mr. LeBlanc:

I can't tell you how hard it is to find a good modifactor in this day and age - especially when you need one. I assume our readers can e-mail you for further information regarding the WWIVcon '95 conference.

Jack Rickard

I got a great laugh out of what Mr. Dvorak had to say this month. I really feel that were it not for the monopoly that the major phone co's have had they would have never been able to stay in business as long as they have.

Case in point...

In 1993 Ameritech was nice enough to run a 'free' add for me in the yellow pages here. This was real nice for my BBS other than the fact that I told them not to run the add. The problem was that I was told that they had to publish the service address where the phone numbers for the BBS were and I ran the BBS out of a remote location and did not want people to know where the BBS was. At the time I think we had around 22 lines.

Well when I found out about the add in the yellow pages I went about nuts and started calling everyone I could to see what could be done about it. I did not notice that the add was even in there till summer and I was told that it would also be in the next years book but they would make sure that it would never be in there again. Also they moved all my lines to a new office that I found at no cost (other than the \$400+ it cost me to mail everyone a post card with the new phone number on it and the fact that the office I moved to was more money a month).

Well now 2 years later I see that they AGAIN have run the very same add in the yellow pages for me with the old phone number that no longer goes to my BBS. Well I figure I will give it a call and see if it still at least gives the right number out still for my BBS. Nope no luck there it's now a FAX number. Gads not only are they still running the add that they said they would quit running but now they have it hooked to a fax machine. Also to top it off there are now 3 or 4 other BBSees listed in the yellow pages with out service addresses in their ads (I was told truth in advertising would not allow that).

I have been trying to get some sort of answer out of Ameritech about what they plan to do about this problem and they keep telling me they will call back. We have called them 2 times a week for about 6 weeks now and they have yet to get back with us about what they plan to do. To tell the truth I don't know that I can do anything about this. I have a small BBS that I work real hard on and don't have the money to take them to court.

I am very proud of my BBS and have worked hard for the past 6 years to grow it from a 1 line system to 40 local lines with full internet access. We have had many problems over the years and most have been easy to fix. The big question is what to do when the phone co is screwing you one min and asking for hundreds of \$ a month the next.

Keep up the good work and thank Mr. Dvorak for a good laugh.

Mike Kozicki
Sysop: Cyberspace BBS
Grand Rapids, MI
Telnet: [cyberspace.gnre.com](telnet://cyberspace.gnre.com) (204.96.30.25)

On-Line Services I Whats Best ?

For weeks now I've been trying to make up my mind on what On-Line service to subscribe to for the best variety, if to subscribe at all. These services are not cheap, from America On-line to Compuserve... whats best for someone looking for a little bit of everything?

Internet, is that worth looking over. It takes a long time to learn UNIX to any great skill level for full use of the system. Is it best to go with an On-line service (an on ramp to the internet) or to go with the Internet ?

Whats best, whats worth the money ? any answer would be appreciated.

Jason Mitchell
Jason.Mitchell@whytel.com

Jason:

It's a rather all encompassing question. A search for a little bit of everything is not terribly specific. You're liable to come up with a little bit of everything by way of an answer.

The good news is that it's all available. And you can't go far wrong. If money is the issue, you might start with free bulletin boards in your local area and work your way up the food chain until you find a home. As you participate in message discussions, send and receive e-mail, and obtain files and software, I think you'll find your needs become more specific.

If all else fails, try them all. Most of them have introductory packages that cost little or nothing to get started and you just pay for the time on the service. If it doesn't suit you, you can easily cancel your account there and move on to something else. Try AOL, CompuServe, Prodigy, Delphi, and a number of bulletin boards and sooner or later you will gravitate to the systems that feel like home. Few decisions online are irreversible beyond that a message once sent is sent forever. Many of these services are beginning to offer various levels of Internet access. Trust me. You'll NEVER have to learn UNIX.

Jack Rickard

Dear Bill,

I've enjoyed your Boardwatch column a great deal. Keep it up.

Down here in Barbados we are fighting a monopoly phone company,Cable and Wireless (British), who is milking us for Net access. We got little 10 page e-mail boxes last Sept. Even the largest corporate ones

only hold 25K, so you can't really move files around using e-mail, or get graphics. On line rates started at \$90/hr US but are now down to ONLY \$24/hr US for day rates.

I write a weekly Internet column for the local newspaper while I am getting ready to challenge them by offering full Net access over one of their 56k leased lines. They prohibit 'downstream' of leased lines so the batelines will be drawn. My rates will be WAY below theirs and at 28.8 vs their 9600. They won't even have a Web front end until late in the year.

If you know of or run across anyone in the world who may also be fighting high access Net charges I'd love to be in touch with them to share ideas and inspiration. This David and Goliath stuff is hard on the nerves going up against a multi-national from the position of a red ink BBS!

Appreciate your keeping an eye out for me.

Thanks,
jim dean
wijnjd@cr.org

Hello, Jack!

I just got my first issue of "Boardwatch" (February) at the newsstand and it's the best!

You had some very exciting articles, and some fun and helpful Internet and Web addresses. I have already sent a couple of E-mail messages to Nute - thanks for the address!

There is only one problem with your magazine: it's hard to wait for the next one!

Mike Sessums
mike.sessums@chrysalis.org

Mike:

We'll do what we can to hurry it along.

Jack Rickard

Hi Jack,

I read with interest and concern your comments in the current Boardwatch issue.

This is getting pretty spooky...I don't have to engage my mind to specify my concerns anymore...you come out with them in print in a timely matter and with much more eloquence than I could muster. The only other person who has that much rapport with me is my wife. And no, you're not getting a kiss...<g>

I'm sure by now you've seen the fiasco in the Committee on Government Oversight and Reform regarding HR 830(?) . Good news is the FOIA came out relatively intact; bad news is it looks like Congress will give

Federal Agencies the license to charge whatever they want for info they have.

Life is interesting; I wonder what will happen in the 96 elections? Ross Perot starts looking better each year... I just don't trust him. sigh. Wanna run for president? ;)

Ben Conner
Ben.Conner@SASBBS.COM
(714)744-2714 bbs

Ben:

I have seen some information regarding Westlaw's attempt to get Congress to revise the Freedom of Information Act so that information they get for free from the government and resell at outrageous prices will be exempt from FOIA. And I'm pleased to hear that this attempt to get themselves a monopoly has failed in the congress. Somewhat less so that various government agencies can now set whatever price they like for us to pay for information we've already paid for once.

Your wife and I are both pleased as punch with your position on kissing. And yes, I really really really wanna run for President. Every waking hour.

Jack Rickard

Jack,

I wouldn't feel right about sending you a suggestion without first telling you that I have been enjoying your publication for almost a year now, and look forward to finding it in my mailbox each month. And, to be honest, it has inspired me to pursue acquiring an Internet account. The final result is what I'm using to write this letter from; an account on the Greater Detroit Freenet Net in Detroit, MI.

Well, to cut to the chase, I see every month you have lists that run, like the BIG List, the list of list keepers, the list of Internet providers, etc. A list I'd like to see in the magazine would be a list of FTP and WWW sites (aside from WebWatch) that runs each week that can be added to each month.

Just putting my \$0.02 in, for all that it's worth (without inflation).

Keep up the excellent work, Jack!

Michael Beck
aj524@detroit.freenet.org

Michael:

Sounds like an idea with a value somewhat in excess of \$0.02. The doing of it poses some problems.

We do intend to note web sites of interest as we encounter them. But most web sites include references to other web sites, and the

value of a printed list of Web sites is questionable. Most web sites ARE lists of other web sites using the hypertext links. I'm not sure what we could add or subtract from that with a printed list.

FTP sites are a little different. From my point of view, the largest FTP file repositories usually have no more to offer than a medium size bulletin board with regards to quantity or quality of software programs and files. More commonly, ftp sites are pointed to by reference in e-mail message and public discussion groups for a particular and specific thing. This ftp site might house all the Request For Comment (RFC) docs, or TCP/IP programs for Windows NT. In other words, they act less as huge collections and more as specialized repositories for specific information. Browsing FTP sites looking for files is generally unrewarding as the interface is pretty poor. Again, we would probably be better noting their existence associated with the topic at hand than trying to do even a representative list.

But we do have a history of listing things. And as we can identify something that makes sense, we will give it a shot.

Jack Rickard

Dear Mr. Rickard,

We are interested in setting up a system for an office environment to allow a number of people (40) to access a DOS based program at the same time. The program was not designed for networking and we are considering setting the system up as a BBS. My question is : Would a high speed PC with BBS software be able to do something like this ? At worst case it would have 40 people on it at the same time and would need to run that many simultaneous instances of the program. We are waiting on a demo from MajorBBS and are looking into types of hardware. Any assistance you can offer would be appreciated.

Thank You,
Greg Hoch
g hoch@name1.ak.net
or Compuserve 76041,1357

Dear Mr. Hoch:

I don't know of any BBS package that can do what you are asking from a single machine. The problem is running the existing DOS program.

Both Major BBS and TBBS have an interesting function in that they can in turn connect to other PC's through the serial ports. Each caller dials IN on a line on the BBS machine and is connected OUT through a second serial port and null modem cable to a DIFFERENT PC that runs the DOS program. In this scenario, you would have 40 PCs hosting the DOS program and 1 high power PC running the BBS interface. The

BBS' machine would require 40 modem lines in and another 40 null modem lines out to the other PCs. You might cut the number of PCs in half by using a multitasker such as Desquiew or OS/2 on the satellite PCs.

Both programs also make provisions for adding custom modules. But these have to be specially written. The Major BBS allows modules written in C, within some guidelines. TBBS allows modules written in dBASE, again with some provisos. So if you can rewrite the application in either language, you can in fact host it all on a single PC.

Wildcat, PCBoard, and similar programs do allow you to run DOS programs through doorway programs, but you remain at 20 or 40 machines.

Jack Rickard

Dear Jack,

I live in Naples, Florida, And we are going to have a freenet. They say it's going to be free, but i'm not sure about that. They also say they will make shareware to make WWW accessible. I want to know, is how do other Freenets work? I would like to know since I can't really afford to Keep Subscribing to AOL due to an \$80 use bill each month!

Also, I heard they may get Internet Relay Chat (IRC) but a sysop friend says that it will take too much overhead to run on the freenet. Is IRC that much of a system Clogger?

In closing, I would like to say how wonderful of a job you magazine is doing. I read you every month, and you are much better than other "bbs" Magazines. Keep up the Good Work!

Thank You For Your Time

Alan Ricotta
SegaSaturn@aol.com

Alan:

Freenets are indeed free and there was a freenet in Tallahassee at one time. I'm not certain of its current status. Typically, they provide you with a free Internet e-mail box, newsgroups, local community discussions and information, and often telnet access to other freenets. I have not been aware of IRC access.

IRC is not a system clogger with regards to bandwidth—you are basically typing characters from the keyboard and most of us don't type fast enough to clog anything. It is a rather low bandwidth application. That said, people tend to spend hours on Internet Relay Chat, and in the case of a freenet, they would be occupying a dialup line for that period. The problem with Freenets is that they have a limited number of telephone

lines and no fees. As a result, all lines are full much of the time and getting access can be a bit of a dialing adventure. I would think it a poor move to provide IRC access through a freenet. But anything is possible.

I think you will find the interface much more spartan than you may be accustomed to on AOL. But the price is right.

Jack Rickard

WHY WE SOAK THE RICE!?

Dear Mr. John C. Dvorak,

Hi,

I really enjoyed reading your latest column in *Boardwatch* magazine (February 95), especially your recipe regarding how to cook the rice: Iranian way.

As someone eating that type of rice for decades every now and then, I appreciate your kind attention on how to cook it.

I am concerned about your question regarding soaking of rice before boiling it which you called it some type of dogmatism. I am not a cook but I have asked my sister which is a professional one about why you should soak the rice? and this is her answer:

We normally use Sadri or Dom-Siah (Balck tail) rice here in Iran, which are not exported because they are only used locally and very short in supply, these types of rice which in our taste are much better than Basmati are very long and good smelling one, specially when pre-processed and dried with smoke. If you didn't soak that in first place, after boiling, it will have some fine cracks on sides and will lose the roundness and will be split after cooking. Also it will lose some of its taste to the boiled water. One other reason is that it will get longer when cooked, if you soak it beforehand.

If you let me, it would be my great honour to send you some samples of these special Iranian rices. You could try it yourself. Just drop me your address. It is worth tasting it.

Best Regards and wishes
Iman Talebian
From: iman@vira.com

P.S.: Not related to this subject, we as programmers in Virayeshgar Company in Tehran, really love your articles both in *PC-Magazine* and *Boardwatch*. Your Pages are the first one read on both publications. I specially love your sense of humor and independent thinking. Wishing you very pleasant and healthy life

Dear Jack:

I wanted to take the time and let you know how much I appreciate your hard efforts in building such an excellent publication. I

have read *Boardwatch* since it was just beginning. I run an international legal and consulting firm here in Costa Rica and you have no idea how much pleasure we get from each months issue. Fortunately we have the monthly shipped in or it would be impossible to find. It was because of many of the things you talk about concerning lack of privacy, that led me to practice and live here in Costa Rica. Not only could we practice law in absolute confidentiality, but in setting up the board, we could say anything on it we wanted to, without worry of invasion from the authorities. We found that many individuals prefer to pass their E-mail and documents offshore, rather than taking the chance in the U.S..

It is staggering the growth of the Internet usage for international banking and corporate work. Our board (Coericon 011-(506) 226-0641) is running 8 lines and a couple of gigabytes, under Galacticom software and at times it amazes the Sysop the amount of mail that comes to us from all parts of the world. We keep a pretty tight rein on our membership and find a continuing growing audience with interest in such things as cashing checks offshore, offshore corporations and just how to get out from under big brother.

I certainly enjoyed the article on yourself in the January issue. Great vehicle. Hummers have just started to become available here, although 80% duty, puts the price out of range for most.

I am forwarding by postal to you a copy of our international privacy newsletter, "Financial Privacy News" for your perusal along with some other goodies from Costa Rica. If you think any of your readers have any questions of offshore capabilities or would like a free copy of our newsletter, just drop me a postal address to: Styvesant@cosiricon.com and mention Boardwatch. We will send them one with our complements.

Keep the great work, hope to stop in one you day, I will be giving a seminar in Las Vegas this year and I hope I can come over. Hope you enjoy our newsletter.

I would certainly like to hear from any other sysop's or anyone who would like to join our "Offshore Banking" forum

Dr. Styvesant J. Fishdt.
De La Garza & Fishdt
Styvesant@cosiricon.com

Dear Dr. Fishdt:

Pleased to hear from you. Yes, privacy is an issue and our legal justice system at this point is out of control on the topic of online services—little more than roving gangs of bandits with badges at this point. I rather suspect there will be more than a small interest in your newsletter and service. I confess some shame that we have to go offshore in a search for freedom. We used to consider

it an American item manufactured here locally.

Jack Rickard

Dear Mr. Rickard,

Mabuhay. Just a short note on a couple of subjects:

Recently I went searching through my stack of old *Boardwatch* magazines looking for some important data. Luckily I found what I was looking for, John Dvorak's chili recipe. The logic of making dinner from a recipe in a computer mag might have been flawed, but the chili was great!

My copy of *Boardwatch* is always mangled. The heavy paper cover doesn't seem to help. I'm not fond of plastic bags either. Surveying my other mags, I find undamaged unprotected mags have a glued binding. Not a complaint really, just feedback for your info. I don't mind the smearable ink either, not when I know it's less toxic.

Thank you for giving me the push. Over the last year I've watched your coverage move more to the Net. Curious, last month I got a PPP account here in Chicagoland for \$26/mo untimed. I haven't had so much fun since I first connected to a BBS.

Keep up the good work.

Regards, Earl Weintraub
Ewintrb@interaccess.com

Dear Mr. Weintraub:

Kumustaka: Pleased you made the trip to the Net and found it useful. The world is changing and some of our readers chafe at the change. We tend to celebrate it and the Internet is a big part of it.

And yes, John's chili is great. When we become too serious to print chili recipes in a computer mag, I'm outta here.

Jack Rickard

ONE BBS CON 1995

Dear Mr. Rickard,

I read every word you wrote in your 2 page writeup on the upcoming One BBS CON 1995 to be held in Tampa this August.

I have arranged some of my vacation time around those dates so that I could attend; however, even after going through the Jan. and Feb. issue of *Boardwatch*, I couldn't find any sort of ad from those who administer the convention so I could obtain details and make arrangements to pre-register.

You did give an address to One, Inc., but it read like it was only for sending papers for

presentations. I did write them, just in case they were also responsible for sending out convention registration materials, but haven't received a reply. Can you tell me how I can preregister and obtain a schedule of events/classes, etc.?

PWMMEDIA@aol.com

Dear PWMMEDIA:

We have been a little slow off the mark in the promotion department. But I did just return from a more detailed tour of the Tampa Convention Center and I must say it is simply a gorgeous facility for this event. ONE BBS CON this year promises to be bigger and better than ever before and I'm getting a little excited about it.

There is a single ONE, Inc. office in the world and we handle most everything out of that office with a full-time staff that does this show year-round. I think we do have an advertisement finally put together for this issue, but you can always call (303) 693-5253 voice and they will be happy to answer any questions and mail you the information and registration brochure.

Hope to see you at the show.

Jack Rickard



...This is technical support
thank you for holding...

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QmodemPro for Windows was the first commercially available product in the industry to support RIPscript. QmodemPro for Windows also has a built-in GIF viewer that lets you view GIF graphics files as you download them. You can even ZOOM in for details. And QmodemPro has Windows icons for dialing directories, a true Windows phonebook. All you have to do to get online is double click on an icon.

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TELEBITS

TECHNOLOGY UPDATE

by Jim Thompson
Western News Service

- WIRELESS PAGING VIA YOUR COMPUTER
- COMPUTER SALES UP; ONLINE SERVICES DOWN
- THE WEIRD AND THE WORST
- COMPUTER NIGHTMARE CONTEST
- WEIRD SOFTWARE CONTEST
- SYTRON BACKS-UP OS/2
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- NEW STANDARDS FOR MPEG
- TELEBIT ENTERS ISDN
- WINDOWS NT FOR REAL

WIRELESS PAGING VIA YOUR COMPUTER

Socket Communications has announced the PageCard Wireless Messaging System (WMS) for Windows. Described as "a complete wireless data communications solution comprised of the PageCard receiver, PageSoft communications software and Socket's Wireless Messaging Services."

The PageCard receiver can be used as an ordinary alphanumeric pager and has the added ability to communicate with any personal computer system equipped with an industry standard PCMCIA Type II interface.

Weighing just 2.2 ounces, the PageCard can receive and display numeric or brief text messages on its LCD display and can receive long text messages which have been transmitted as smaller paging network message segments. The segments are stored in the unit's 128,000 character memory and then transferred into a computer system where they can be reassembled and used to update data or text files.

CONTACT: Socket Communications,
(510)744-2740



COMPUTER SALES UP; ONLINE SERVICES DOWN

According to a national survey of the use of home personal computers, market penetration of personal computers has increased slightly since July 1994 but the use of online services has decreased.

Odyssey Homefront, the largest in-depth, national survey tracking the home market for personal computers, says "market penetration of personal computers has jumped from 27 percent of U.S. homes in July 1994 to 31 percent in January 1995."

Last July, six percent of U.S. households (25 percent of PC households) had CD ROM drives. By January 1995, that percentage had grown to nine (30 percent of PC households).

This growth pattern does not extend to online services. In July 1994, Homefront found that six percent of U.S. households had an online service at home compared to seven percent in January 1995.

"Online subscription rates may lag PC purchases because it takes a while for people to sign up," said Odyssey President Nick Donatiello. "Or perhaps online services have not yet proven the value proposition for PC households," he said. "It is possible that the kind of people who are just now buying PCs are not convinced they need an online service."

According to Donatiello, online services marketers can still find ample opportunity with households that already have PCs and modems. "Sixteen percent of U.S. households have PCs and modems," he said. "And 58 percent of households with PCs and modems do not yet subscribe to an online service."

Many consumers are interested in multimedia. In fact, 49 percent of those who own a CD ROM drive say they would not have purchased a computer without one. But although the number of households with CD ROM drives is growing, there are still barriers that need to be overcome by multimedia title developers and publishers.

The Homefront survey is conducted every six months by San Francisco-based Odyssey, the only market research firm dedicated exclusively to studying consumers, technology and at-home information and entertainment. The survey is based on a random-digit-dial, computer generated sample of 1,500 households that closely matches the U.S. census.

CONTACT: Edelman Public Relations,
(415)968-4033

THE WEIRD AND THE WORST

The California Computer Expo is calling for entries in the annual Weird Software and Worst Computer Nightmare Contests.

COMPUTER NIGHTMARE CONTEST

Your worst nightmare may not seem so horrible if it wins you a trip to San Diego. And if it has anything to do with computers, we want to know. The California Computer Expo is looking for shocking, entertaining, outrageous—maybe even hilarious—stories about your worst experience with a computer. Past years' entrants have submitted incredible tales, like the one telling of a pooping parrot, or another about an overly amorous cat.

Entrants should send their 500- to 1,000-word stories to Computer Nightmare Contest, the California Computer Expo, P.O. Box 83086, San Diego, Calif. 92138, or fax to **(619) 573-0205**. Deadline for entries is June 30, 1995. The winner will be flown into San Diego for two days to attend the California Computer Expo, held Aug. 17-20, and to take in some much-needed computer therapy.

WEIRD SOFTWARE CONTEST

What's weird? Weird is described as "a screen saver that features Elvis sitting atop a winged toilet, or a program that helps you determine if those odd people living next door are actually space aliens." Last year's Weird Software Contest winner was a screen saver that acted out the old joke "How do you tell the difference between a dead lawyer and a dead chicken lying in the road?" You know! There are skid marks in front of the chicken!

The Weird Software Contest will award winners in two categories: visual and text-based software. If you're the weirdest of the weird in your category, you'll pocket a quick **\$500** cash. Winners will also be featured in a special "Weirdware" issue of ComputerEdge Magazine.

Submit your program in Macintosh or DOS/Windows format on 3.5 inch diskette(s) by June 30, 1995. There is no limit on number of entries per person. Each entry must be clearly marked with name, address, phone number and asking (or retail) price. Also please provide a one-paragraph description of your weird software. Winners will be notified by mail prior to the Expo. Cash awards will be presented at the Weird Software booth of the California Computer Expo.

CONTACT: Pat Smith, **(800) 573-3247**.

SYTRON BACKS-UP OS/2

Sytron Corporation has announced the availability of Sytos Premium v2.1 with support for IBM OS/2 Warp and IBM LAN Server 4.0.

Sytos Premium also includes Sytos Rebound, a disaster recovery utility that protects OS/2 Warp workstations and servers from total system failure. If the hard disk becomes corrupt, the user installs the recovery disk to reboot the sys-

tem. Rapid and unattended recovery of the OS/2 Warp operating system can be done within 10 minutes.

CONTACT: Sytron Corp., **(508) 898-0100**



TAPE TECHNOLOGY TAKES OFF

Conner Tape Products Group is now marketing the Tape-Stor 4000-IDE, the first ATAPI (ATA Packet Interface) IDE minicartridge tape drive.

The Tape-Stor 4000-IDE drive has a 4 GB compressed capacity and offers data transfer rates of up to 54 MB per minute. The new minicartridge tape drive supports the QIC-157 ATAPI IDE interface, which is an enhanced version of the ATA IDE standard — the interface typically used with hard disk drives in personal computers. With an ATAPI IDE interface, users may add tape and CD ROM drives for a total of up to four internal IDE peripherals. Conner's Tape-Stor package comes equipped with its own dedicated IDE interface card.

The suggested retail is **\$629**.

CONTACT: Conner, **(800) 4-CONNER**



FAST SCSI

BusLogic has introduced two high performance wide, fast bus master SCSI-2 host adapters for PCI bus systems.

Compared to 8-bit SCSI adapters, the new adapters offer a doubling of the data path from 8- to 16-bit, a doubling in the transfer rates across the SCSI bus from 10 megabytes per second (MB/sec) to 20MB/sec, and an increase in the number of SCSI devices supported from seven to 15.

Additionally, the BT-956C incorporates future support for the emerging Ultra SCSI specification, allowing data transfers up to 40MB/sec. BusLogic is offering the BT-956C, a PCI adapter with single-ended active termination, and the BT-956CD, a PCI adapter with differential termination.

BIOS support is supplied for hard drives with up to eight gigabytes of capacity each. Additionally, on-board Flash Read Only Memory (ROM) is available as an OEM option, enabling users in the field to easily upgrade firmware enhancements supplied by BusLogic.

CONTACT: BusLogic Inc., (408) 492-9090

NEW STANDARDS FOR MPEG

Sun Microsystems Computer Company (SMCC), LSI Logic (LSI) and David Sarnoff Research Center (Sarnoff) have announced plans to develop encoding systems for MPEG-2 video. This should result in an overall lowering of the system cost and dramatic improvements in video compression technology.

Based on memoranda of understanding among the three companies, the group will work to jointly develop an MPEG-2 encoding capability based on SMCC's SPARCstation 20 workstation. The new encoding systems will deliver industry-leading performance at low costs by leveraging the three companies' expertise in systems innovation, digital video IC design and algorithm development.

SMCC's SPARCstation 20 will be the industry's first system to feature the encoder chipset, with system shipments scheduled for the summer of 1995.

CONTACT: High Tech Communications for Sun Microsystems Computer Company, (415) 904-7000

TELEBIT ENTERS ISDN

Telebit Corporation, has moved into the area of ISDN (integrated services digital network) with the introduction of the NetBlazer LS ISDN and NI2B.

The ISDN functionality of the NetBlazer LS ISDN and NI2B enables users to transfer data more than four times faster than previously possible with analog technologies. Furthermore, the products can decrease network access time to 1-2 seconds (from 15-20 seconds required for standard analog services using modems).

The Telebit NetBlazer LS ISDN offers simultaneous routing of TCP/IP, IPX and AppleTalk as well as Ethernet to LocalTalk routing, support for ARA 2.0, frame relay and interface balancing.

There is also a comprehensive range of LAN and WAN interfaces including Ethernet in 10Base-2 (BNC) and 10Base-T (UTP) interfaces (autosenses which connector is active), LocalTalk RS-422 (230.4 Kbps) interface on 8-pin D Connector supporting AppleTalk (MAC/IP used to encapsulate IP in AppleTalk), sync/async (up to 128 Kbps uncompressed) and ISDN BRI (two 64K B channels, one 16K D channel) with S/T interface for routing over ISDN, high-speed modems, Switched 56 CSU/DSUs or leased-line CSU/DSUs at T1/E1 speeds.

NetBlazer LS ISDN sells for \$1,399. The NI2B sells for \$1,660.

CONTACT: Telebit Corporation, (800) Telebit



(Jim Thompson is Managing Editor of Western News Service in Los Angeles, California. He also manages the Marlboro Racing News BBS. CompuServe: 7277,2677, MCI Mail: 321-4127, INTERNET: jim.thompson@wnsnews.com)

WINDOWS NT - FOR REAL

by Jack Rickard

I've become quite cynical about operating systems for personal computers. Like most cynics, it is actually a manifestation of disappointment and unrequited love. DOS did not actually make the earth move for me in 1981, and little about it developed since has actually made me a believer. But the options have always been a bit craven. PC-MOS and CPM/86 were disappointing losers. Windows circa 1986 was a joke. Windows 3.0 and subsequent have been useable—barely, and we use them largely because they offer the ability to do page layout and graphics work at all—not because it does them well. We reboot Windows hourly just to hobble along to the next general protection fault in misery and shame.

The other options are as bad. I know John C. Dvorak and Jim Thompson and many otherwise knowledgeable and astute people are just bonkers over OS/2. The most recent Warp version ate my machine at home outright and wouldn't even give me DOS back without a lot of maneuvering. Gary installed it at the office freshly from CD-ROM on a virgin 486-66 with enough RAM to run Microsoft's coming network,

and proudly showed me that it does in fact run. I clicked on something - nothing happened. So like the technical guru I am, I clicked on it HARDER and repeatedly. Nothing. While we discussed this strange turn of events, and while he fretted around in embarrassment, the screen suddenly lunged at me flashing a series of windows as a result of my actions thirty seconds ago. Explanations of the how, and the why, and what we must do different to "get it to work right" fell on deaf ears. I don't care. I want it out of the building. Yes, you can keep the hard drive if you do a low level format twice.

UNIX is actually a lot of fun. It's not viable as a solution for most of us because it is persnickety as hell, barely stable, and has a learning curve a mile high to do anything on it. It will do ANYTHING you want. But you have to learn how to tell it to do that, and I think it will forever remain a specialized niche part of the operating system world - if nothing else because it is so damn ugly it actually causes sympathy. It can become its own introspective game like bridge or golf - but I need something to do work with and to allow humanoids to work on. If I had three months with nothing to do, the thing I probably WOULD do in all this world is go install Lynux at home on a big time Pentium box because I do in fact fall prey to such puzzle games. But I don't have three months idling around to spare right now. Someday.

My initial take on Windows NT was that it was terribly overpriced, but it didn't matter - it didn't work anyway. The server version is \$699 and the workstation version is about \$319 and with a "20 user pack" going for over \$5000, we're not sure Novell should be quite as frightened as they appear to be. And I gather that was much the perception of the world. After a tremendous spate of coverage in the computer press, it simply passed from view. We no longer hear much about it.

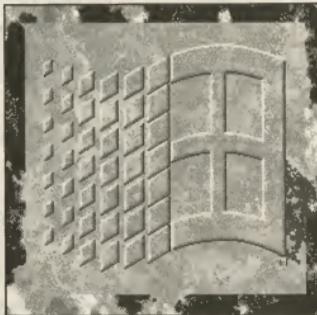
But recently WindowsNT seems to have taken on a new, if somewhat quiet life. They rather quietly released a new version 3.5 that gives every indication of working in places. And I began running into a few shamefaced apologetic individuals that noted that they knew they were doing a bad thing, but they had tried NT and it seemed to be working for them. I could initially discount this under the aegis that every OS needs somebody sometime, but recently it has become a steady stream of otherwise knowledgeable and all in all rational people whispering somewhat furtively the NT word.

Bernard Aboba now works at Microsoft in their Advanced Technologies group. But he's done a lot of writing and research about how to connect PCs to the Internet. He doesn't usually buy into trendy stuff and does his research. Of course he works for Microsoft, but he's not really connected to the NT crowd exactly. He sent me a copy of NT WorkStation and a copy of EMWACS - a World Wide Web server, and indicated I might be missing a story here. I suspected he was correct, as he makes that habitual too.

So we installed both NT and OS/2, each on different drives but configured for the same 16 MB 80486-66 MHz machine. As noted earlier, OS/2 was sent to the showers early. But we've been playing with NT for some time now. And I personally think the world owes this OS another look.

NT does require some hardware. The WorkStation version ostensibly requires 12 MB of RAM and 75 MB of hard disk real estate while the Server version requires 16 MB of RAM and 90 MB of hard disk. I hate to be elitist, but at this point, who cares? Gigabyte drives are now under \$500. RAM is still a little pricey, and I do NOT recommend the 12 MB install. Sixteen MB of RAM is the baseline for a new machine at this point. Both versions require at least a 386-25 MHz to run. Again, I wouldn't bother. We can't FIND 386-25 MHz machines anymore. To all those who will write bemoaning the fate of their 8 MHz 8088 XT—get a life. It's time to move on. The new hardware costs less than you PAID for the XT ten years ago.

NT installation went pretty smoothly. We had some sort of disk doubler on the hard drive that caused an error, but as soon as we pulled that off, NT went on smoothly from something over twenty 3.5-inch diskettes. A CD-ROM version is available. When we got it installed, the first thing we saw was **CTRL-ALT-DEL TO LOGIN**. I was in love already. Was this a joke on Novell's **ESCAPE TO CONTINUE** installation quirk? Can one of the world's largest software companies still have a sense of humor?



We had the machine connected to our LAN, but had just gone through the install. There was a CONFIGURE IP icon on the Control Panel, so we clicked on it and entered an Internet Protocol number. Like most LAN's we have a Class C Network that assigns us 255 IP numbers. We can then assign any one of them to any machine pretty much as we like. So we made one up and entered it. We then clicked on **TELNET** and tried to telnet to a site. And we connected. Connecting Windows NT to the Internet was approximately that easy. No WINSOCK. No packet drivers. No Windows shims. We entered an IP number and we were ON.

Further, the TCP/IP stack in Windows NT is WINSOCK as far as we can tell. Almost any application that runs on Trumpet Winsock for Windows 3.1 will run on Windows NT. We threw Netscape's browser in a directory and clicked on the **netscape.exe** file - it's never complained.

Installing the Client for Netware took a bit more. We've always had various levels of difficulty getting a Windows machine on the LAN. Microsoft almost deliberately seems to make it difficult. But NT is probably the most Netware friendly version of Windows ever released. And once we installed it, we just didn't have the usual problems getting printers and drives and so forth to show up everywhere. It was smooth. NT Server can actually act as its own network of course and we continue to get reports of people bailing on Netware in favor of NT. We don't think it will match Novell

performance - wise and we would be hard pressed emotionally to bail on our Novell server, but the combination of the two systems is not at all bad at this point. NT Server can also act as a gateway to Novell which offers some interesting possibilities in user management.

NT comes with an FTP server but it does not install during the normal install. Ostensibly this is to prevent someone from installing NT and accidentally making some directories available to the whole world without knowing it. But you can go back and rerun the install to install the ftp server and it works quite well. You can specify the directories that are made "public" on the net and again, you might want to exercise care in doing this.

NT features a Virtual DOS machine function that is pretty interesting. There is no DOS on the machine from what we can tell, but the DOS emulation is quite fast and appears good. It isn't perfect. You can't play Doom. But it's pretty good. Better, there are some new DOS commands that you can run from a DOS window. Things like **PING**, **FTP**, **TELNET**, **TRACERT** (traceroute) and so forth make the command line in NT look almost like a UNIX shell account. For quickly checking to see if a system is up or ftping a file, it works just fine—if plainly.

The very smoothly integrated TCP/IP is actually what won me to NT. But the system is endearing in other ways. It is a true preemptive multitasker and feels about three times faster on this little 486-66 MHz than Windows 3.1 does on my own P5-90MHz Pentium machine. Windows snap around the screen with impressive precision. Further, while the Pentium gets the reset switch trick about once every 45 minutes of its life, we have YET to have to reboot this NT machine at all. We can't break it in casual use.

There are some things about it we found disconcerting. They're actually features we think, we just aren't used to them. You do **LOGIN** to the thing, even on the WorkStation version. What does this mean really? Well, obviously several users can use it at once in theory. But processes can too. NT has a list of **SERVICES** that you can run. Any number of "server" programs are available for the machine (more on that later). To run them you typically run the **.EXE** from the file manager or DOS window with some sort of switch indicating operational parameters—i.e. **program.exe -automatic**. This runs the program the first time and "registers" it with the operating system. A **SERVICES** function in the control panel allows you to start or stop these individual processes manually, or leave them to run automatically.

When NT is booted, the first thing we see is **CTRL-ALT-DEL TO LOGIN**. Our question was, if we lose power, do we have to be here to login to get our various servers back up? No. All you are logging into is a CONSOLE to WindowsNT. The servers are already running.

The slippery part of this is, WindowsNT does a lot of things, and you as operator see none of it most of the time. This was the one most disconcerting thing about this operating system. It's cooking all over the place and we can't tell it.

But NT is more than a fast version of Windows with some tricks. It has been seized on by many of those developing TCP/IP applications for the Internet almost overnight. The

true multitasking and performance of NT make it a much better platform than Windows 3.1 for things like World Wide Web Servers that must handle multiple sessions from different callers simultaneously. And these applications are being written as full 32-bit apps with very impressive performance. The hype about 32-bit appears to actually be well founded. Within the past two or three months dozens of these things have popped up and much of what we find exciting has been released for the first time since January 1995. It looks like a hurricane of TCP/IP application development for this platform.

Microsoft itself has released a Windows NT resource kit at no charge from their ftp site with several of these Internet servers. It is a 7.5 MB file titled **I386.EXE** on ftp.microsoft.com. They are buried deep in **/busysy/winnt/winnt-public/resourcekit/i386**. They are free, but take awhile to transfer. You can also order this resource kit on CD-ROM by calling 800-MSPRESS.

The kit contains some utilities we found uninteresting but may find a use for later. But it also contains a series of servers we found fascinating. Including:

HTTP Server for Windows NT. This is a World Wide Web server created by the European Microsoft Windows NT Academic Centre (EMWAC) at Edinburgh University. This is really quite a full - featured web server that supports the use of:

1. Forms: - allows you to have callers fill out a data form for a variety of purposes.

2. Image Maps: - these allow you to put up a single image with defined areas where if a caller clicks on a particular segment of the image a link is formed to another document, page, or site.

3. CGI Scripts: The Common Gateway Interface or CGI script function allows you to pass data to another program, written in the C language, that can process that data and return a value. An example of a CGI script would be a script to search a database for a user supplied keyword and return a record containing the keyword.

TIMESERV. The resource kit comes with a TIMESERV server that can synchronize the PC clock to a timeserver such as the National Institute of Standards time service either by modem to the Automated Computer Time Service or via TCP/IP to the Network Time Protocol server.

Gopher Server 0.91 for Windows NT. Also by EMWAC, this gopher server allows you to setup your own Internet gopher on your NT system. Gopher servers are more text intensive than WWW and were very popular before being eclipsed by Mosaic and the World Wide Web. Many web sites still have underlying gopher servers they link to for more text intensive information.

Domain Name Service. They call it the Windows Internet Name Service. They call it that because it just won't quite act as a full domain name server for the Internet. But it's almost there.

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So between the WindowsNT package and the resource kit, you can have an FTP server, a World Wide Web server, a gopher server, time synchronization, and domain name service. We also found a host of other servers from third parties.

NNS - Network News Server for Windows NT Version X2.05.

Written by Jeff Coffler, this program implements the Net News Transport Protocol or NNTP and acts as an NNTP server. It connects to the Internet to get news either through TCP/IP or UUCP and creates a spool containing newsgroup messages. You can set NNS to expire messages after so many days to limit the pool of news. Clients such as TIN or the newsgroup function in Netscape can look to the NT machine as a news server to retrieve news messages as necessary. The latest x2.05 version of this news server was released February 22nd and implemented the ability to propagate news messages. Interestingly, we found it very capable in eating the .BAG files distributed by the Planet Connect satellite service that distributes newsgroups via satellite. The program is available ONLY from ftp.wa.com in the directory /pub/local/nnews in the file nns-latest.zip. The program is freeware and comments can be sent to nns@jeck.seattle.wa.us.

Ataman TCP Remote Logon Services Version 1.5. This server allows you to access the NT machine via a telnet or rlogin session and thereby "logon" to your NT machine much as you would locally. It is not a GUI of course but you can logon to the machine and do most anything at the drive/command line level. Install this puppy with care if you don't want to grant access to most of the free world. Shareware at \$40. File name is **ATRLS15L.ZIP**. Contact Ataman Software, Inc., 749 S. Lemay Suite A3-411, Fort Collins, CO 80524; (303) 416-9199 voice; (303) 416-9188 fax; support@ataman.com.

NT Mail Services. This shareware application provides SMTP and POP3 mail servers for Windows NT. **SMTP** is the Simple Mail Transport Protocol used to transmit mail from one site to another via TCP/IP. In this application, it is a server that allows other systems to send mail to your site. A corresponding **POSTMAIL** program in this package allows you to send mail to another site.

SLIP/PPP callers tend to use a protocol titled **Post Office Protocol Version 3** or **POP3**. POP3 is a way of storing and forwarding mail received by SMTP over a constant TCP/IP link to a SLIP/PPP caller who dials up a connection only occasionally or intermittently. In this way, between the SMTP and POSTMAIL functions and the POP3 server, you can use your NT machine to be a mail hub for your PPP dialup callers. It receives mail from the net and holds it in a POP3 spool for your PPP dialups to receive when they call. And it will take outbound mail from those callers and send it via SMTP 2nd POSTMAIL to its destination.

The program was written by Brian Dorricott in London. It is shareware but requires the use of a key that allows up to four simultaneous users in the latest version for about a month. After that, you must register it. They have different registration prices for 2 simultaneous users, 10 users, 50 users, and over 50 users, but they won't tell us what it is. Rumor has it they are asking nearly \$1000 US for the unlimited version. Odd, but at least strange. They are also working on an associated mail list server to work with the

program. They do have a nice web site at <http://www.net-shopper.co.uk/software/ntmail/index.htm>. It allows you to download the latest version with your Netscape browser quite easily. The latest version we saw was Version 2.02 in the file **NTMAIL04.ZIP**. Brian Dorricott, PO Box 6064, London SW12 9XG, United Kingdom; brian@net-shopper.co.uk.

Most of these servers are still very much under active development. But they cause us to believe that much of the TCP/IP developer community has seized on NT as a promising platform for such programs. With the existing growing wealth of various applications for WINSOCK on Windows 3.1, almost all of which also work on NT, along with these new 32-bit multi-threaded server applications and the most seamless TCP/IP installation we've seen in anything, Windows NT looks like a comer for Internet services.

REMOTE ACCESS SERVICE

NT contains a function titled Remote Access Service that is really a serial communications manager. NT can use either SLIP or PPP to dial out and make a connection to an Internet Service Provider for Internet service. But it can also serve as a PPP server allowing others to dial in for a PPP connection. It cannot act as a SLIP server. Since everything that might look like a client including Trumpet Winsock now supports both SLIP and PPP, the oversight of SLIP on NT seems like a non-event.

For operators, this is the critical difference between Windows NT WorkStation and Windows NT Server. The WorkStation version can provide ONE PPP port on the NT machine. The more expensive NT Server version can theoretically support up to 256 logical PPP ports. To do this, it uses DigiBoard intelligent serial cards such as the **PC8e**. We did not test the ability of the server version to actually support 256 connections this way, and it is unlikely that it can with our 486-66 MHz hardware. But one of the most attractive things about NT is that it begins to offer a path to buy your way out of trouble with hardware if your needs grow over time. Intel is now talking about a **P6** microprocessor roughly twice as fast as the Pentium. Additionally, NT can make use of multiprocessor PC's having as many as four Pentium microprocessors on a single motherboard. And NT is already available on the MIPS R4000 and R4400 RISC machines, as well as the DEC Alpha machine. So the concept of a Windows NT machine running as the heart of a hunt group of 256 PPP dialup lines is not entirely preposterous.

CHICAGO AND THE REST OF THE WINDOWS FAMILY STORY

Windows95 aka Chicago looks like it will see an August 1 release date. We viewed the program along with a demo of the Microsoft Network at TWO BBSCON in Dusseldorf Germany this past February. A couple of observations.

First, the Microsoft Network is quite real, quite flashy, and quite capable. It will open in 20 countries initially. One of the interesting things we found was that this network runs entirely on PCs. True, they are quad-processor Pentium machines and there will be about 178 of them wired together with maybe a gigabyte of RAM in each machine. But they will be PCs and they will all run Windows NT Server. Microsoft's current FTP site at ftp.microsoft.com is getting a LOT of traffic and it runs on NT. And Microsoft's Web site at

<http://www.microsoft.com> is also getting a lot of traffic. It runs on NT using the EMWAC http server described here. So NT is already proving itself quite capably as a formidable server on the Internet.

Windows95 looks like a slightly cut down version of WindowsNT WorkStation. The graphic interface is completely different, but it also runs 32 bit applications, has TCP/IP built in, and the interface is actually a bit like Norton Desktop for Windows - you can move icons out of windows and onto the desktop and they work just fine. It is frankly gorgeous. Windows95 also has a client built into it for the Microsoft Network. This is causing a great deal of concern among BBS operators, commercial online service operators, etc. If Windows95/Chicago goes like we believe it will, there could be 30 million of these out there a year from now. Many online services feel themselves to be at a bit of a disadvantage with Microsoft, including the front end for their service in the operating system, while everyone else has to mail out little yellow boxes with clients that need to be installed. It's certainly a factor. But if the client is good, everyone will ultimately find a way to use it and we will have a common client for all online services. And if it isn't that good, what difference does it make. How many callers use Microsoft's terminal program now?

But it looks like there will be Windows95 for most users, WindowsNT Workstation for those needing a little more power, and Windows NT Server for the truly voracious. Further, the operating system holds potential for spanning a lot of hardware, from your basic 386 with 12 MB of RAM up through DEC Alpha machines and multiprocessor machines based on Intel's not yet released P6 microprocessor. This scalability of the operating system and the hardware has just

never been available to us before outside of the UNIX community. It's graphical. It's Internet savvy. It's scaleable. And it's basically here.

And rumor has it that we may see all sorts of things migrate to WindowsNT. We see no reason why the concept of a Mustang Software BBS on NT or a Softarc FirstClass BBS on NT wouldn't work. NT could open up a host of new possibilities not only on the Internet, but in the dialup world off the Internet as well. We think it's a remarkable platform. It looks good, feels good, and has the right stuff. You could almost offer Internet services from the server version now. Within months you will be able to.

WINDOWS NT INTERNET FAQ

Steve Scoggins (sscoggin@enet.net) has assembled an absolutely superb information file on Windows NT and the Internet titled the **Windows NT Internet FAQ**. It answers hundreds of questions on how to get RAS PPP to work under various conditions, configuring Trumpet Winsock to call an NT PPP server, where to get UUCP for NT, and hundreds more. The ASCII text version is available at [rtfm.mit.edu /pub/usenet-by-hierarchy/comp/os/ms-windows](rtfm.mit.edu/pub/usenet-by-hierarchy/comp/os/ms-windows) in two files held there. Tom Baltrushayitis (tbaltru@orion.it.luc.edu) has ported this FAQ to an HTML document available on the web site <http://www.luc.edu/~tbaltru/faq/>.

There are also three USENET news groups you might want to monitor for Windows NT discussion:

<comp.os.ms-windows.nt.misc>
<comp.os.ms-windows.nt.setup>
<comp.os.ms-windows.programmer.win32> ♦

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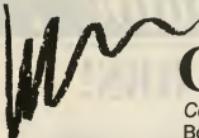
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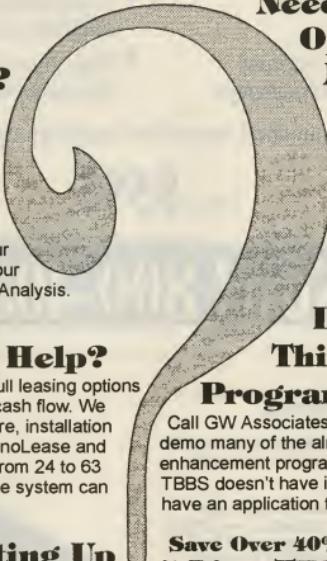


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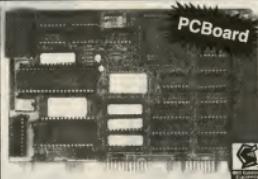
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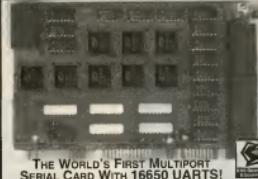


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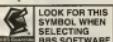
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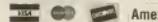
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Sample Custom DataBase under the DarkStar Graphic Editor



StarLink terminal dialing directory database.



Sample menu under construction in the DarkStar graphic editor, with iconbutton import facility overlaid.

WEBWATCH

WEB SITES

by Hope Tillman and Walt Howe

As Spring appears across the land, another group of young people prepare to graduate from school or college and set out to make an honest living. Our first selection is intended to help the young graduates (and perhaps some older ones, too) find that first job. There are other web and gopher sites designed to help match jobs and people to fill them, but this one is by far the most colorful:

- WEB SITES
- BABB'S BOOKMARKS

- PUBLISHING ON THE WEB, PART 3

THE MONSTER BOARD

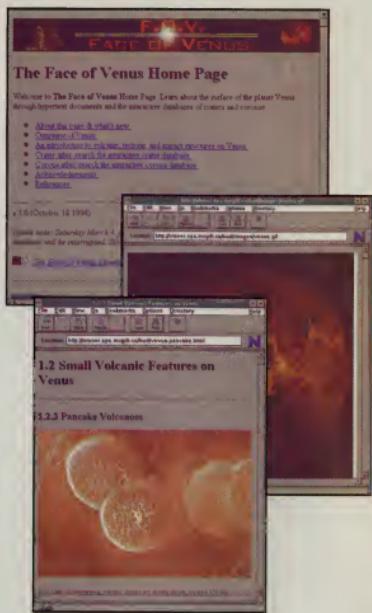
<http://www.monster.com>

Unfortunately, the forms support doesn't work very well on this site with Netscape, so other versions of Mosaic must be used or a text browser with forms support like Lynx.



Another good jobs site URL to try is the Online Career Center at gopher://occ.com. No pictures, but lots of jobs!

Our next selection takes us to our nearest neighbor planet, or at least a Web site that features pictures and data about the planet.



THE FACE OF VENUS

<http://stoner.eps.mcgill.ca/bud/first.html>

Whether you are interested or not in the scientific data collected by the Magellan spacecraft, the pictures are spectacular, and well worth the visit. If you just have a text browser, there is plenty of data, and the pictures should be downloadable for viewing offline.

TRAVELS WITH SAMANTHA

<http://www-swiss.ai.mit.edu/samantha/travels-with-samantha.html>

Our third selection is not a new site, but is so well done, that we want to call attention to it. "Travels with Samantha" is a book by Philip Greenspun published online. Greenspun describes it this way, "This book is about the summer I spent seeing North America, meeting North Americans and trying to figure out how people live." Greenspun is an entertaining writer and a superb photographer. He captures the America he sees in his eyes and his words and brings a fresh vision to all that he sees from the ordinary things in life to the spectacular.



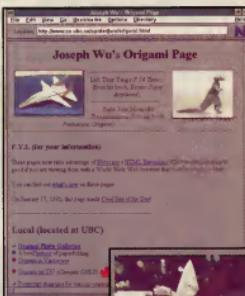
JOSEPH WU'S ORIGAMI PAGE

<http://www.cs.ubc.ca/spider/jwu/origami.html>

Our fifth selection is just for fun. From this site, you can learn origami, the ancient art of paper folding. See how a single sheet of uncut paper can become a moose, a dinosaur, a winged ant, a dragon, and other paper sculptures.

The techniques are illustrated through words and photographs, and downloadable postscript files can be printed

on paper to mark the folds for various figures that can be constructed.



Origami is a challenge for children or adults, and there seems to be no end to the creative figures that can be constructed. If you have a text-only browser, you can get some usefulness out of the site through downloads, but it loses a lot.

FEMINIST ACTIVIST RESOURCES ON THE NET

<http://www.clark.net/pub/s-gray/feminist.html>

Finally, we would like to mention a very well designed and constructed site that is almost all text. It is the expert construction and well-chosen resources on timely and controversial issues that makes this site valuable, whatever your political leanings. It is a design for activists, and shows some of the ways the Web can be used for political action.

Publishing is going to see many changes in years to come, and this represents one of the first very successful experiments in new forms. This is well worth the visit for text-only browsers, but be sure to download the pictures, too.

YOUNG AMERICA, DEFENDING THE CUP ONLINE

<http://www.delphi.com:80/young-america/homeport.html>

Our fourth selection takes us to the America Cup trials, to be resumed in May, as seen by the Young America team, hoping to represent the United States in the challenge round.



On this web site, you can follow the results of the trials from insiders reports, look at the technology and the strategy that have gone into building a cup defender, and review the century long history of the America Cup. You can follow the work that goes into building and training a team, and above all, you can view the gorgeous photographs of the cup defenders. There is plenty of material for the text-only browser, but the pictures are the greatest attraction.

BABB'S BOOKMARKS

by Chris Babb

What more can be said of the Web? It's in the newspapers, in magazines, on TV, it's becoming the O.J. of telecommunications. At this point, I wouldn't be fazed by a "Find The Bloody Glove Page," or an interactive "Hit Golf Balls In O.J.'s Sandbox" page. Needless to say, I was not surprised to find the full transcripts of the O.J. trial on the Web last night. Of course, there is much more than just the transcripts, but then again, there is much more to the O.J. story than what we are seeing (or not seeing). My verdict on the whole shebang? Professor Plum did it in the Walkway with the Knife. On to incredibly more important issues.

Most of the talk surrounding the Web has been what is available to look at and what information is available to inform and educate everyone. Very little concern has been paid (so far) to the creation of HTML (HyperText Markup Language) documents (with the exception of the February 1995 issue of *Boardwatch*). If you look in the newsgroups, you will find a lot of people who want to make their very own "This Is MY Homepage" page but don't have a clue how. "How do you make an HTML? How Do You Make A Transparent GIF? How Do You Do Maps? Where can I get information?" and it goes on from there. Because I wanted to make my very own homepage, I inadvertently collected a whole pile of URL's that provide much of this how to/design information. Be prepared, these sites are not filled with the great big hideous bandwasting graphics, original prose or the horrendous screeching sound files we are all used to seeing and hearing. Hopefully though, they will enable you to create your OWN homepages filled with those very same hideous bandwasting graphics, original prose and horrendous screeching sound files that have pummeled our senses for the last few months.

If HTML creation is just not in your genes, don't feel left out, I have also provided a couple of utterly interesting and sometimes useless (but always entertaining) sites for your viewing pleasure. You will find them further along in this article.

WWW BASICS

The basics, something to get you started, educated, informed:

World Wide Web Frequently Asked Questions
http://sunsite.unc.edu/boutell/faq/www_faq.html

World Wide Web Frequently Asked Questions

This document resides on the World Wide Web on domain [GULLIVER](http://sunsite.unc.edu/boutell/faq/www_faq.html).
http://sunsite.unc.edu/boutell/faq/www_faq.html

If you are unfamiliar with the term "URL", read on and learn!

Last update: 1/23/95

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What we seem to have here is just the FAQs(Frequently Asked Questions). If you are an interested beginner or an experienced HTML author, this document is a must. While this site does not offer all of the pretty graphics we are all used to, it does cover the details of what the Web, URL, SGML and HTML are. It goes into greater detail on how to access the Web, provide information on the Web (covering servers for just about every platform available), and then goes on to discuss the basic and advanced procedures for creating HTMLs and graphics that make the Web the wondrous place that it is.

I'm sure that most of us are used to having to first find a FAQ and then we have to print it out. Droll and quite boring. I usually have to make sure I have a large glass of some liquid refreshment or cooling libation to prevent the parched state that most of these documents leave me in. Providing the FAQs on the Web adds a new dimension. There is something very compelling about seeing all kinds of highlighted links just begging to be clicked to provide us with some little tidbit of information that we think we need.

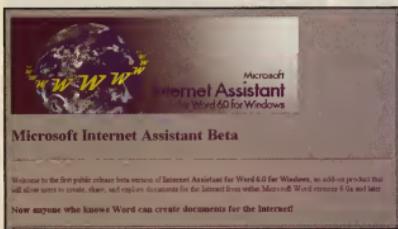
The screenshot shows a web browser window with the title "WWW & HTML Developer's JumpStation". Below the title, it says "Maintained by SunNet and hosted by OneWorld Information Services since 2.0.01 Oct 1994". A "Table of Contents" section lists several links: "Writing HTML Documents", "Information on the World Wide Web (WWW)", "WWW Server Software", "A Bit About Servers", and "Images, Icons and Flags". Under "Images, Icons and Flags", there is a thumbnail gallery of five images labeled "Image Servers", "Space Images", "NASA Images", "Travel Images", "Medical Images", and "Image Archives".

WWW AND HTML Developer's JumpStation
<http://oneworld.wa.com/htmldev/devpage/dev-page.html>

The Developers Jump Station is a great starting point to garner piles of information on the Web. The link to Writing HTML Documents takes you to some excellent info to help you with the basics and also goes into great detail on the more advanced aspects of HTML creation. The link to Web Servers will hit you in the face with servers for Windows, OS2, UNIX, VAX/VMS and a few others. Within this section is also a link to information that gives pointers on writing your own server, if you're so inclined. Some of the other "jumping off" points will take you to HTML editors and converters, information on using forms and art galleries and graphics for your very own homepage. How nice.

WWW HTML EDITORS

The editors, things that allow you to create, format, assault us with your genius. Only but a few of what are available:



Microsoft Internet Assistant

<http://www.microsoft.com/pages/deskapps/word/ia/default.htm>

Microsoft has been hyping this product for a couple of months. This is only the beta version of the Internet Assistant, but I feel that they have made an excellent start. If you are wondering, the Internet Assistant is a Microsoft (what else?) Word For Windows 6.0a add-in that allows you to WYSIWYG your way to HTML creation. As Microsoft says, "creating an HTML is now as easy as saving a file," and it really is. You also get the added benefit of all the built - in features of Word to help you along like autocorrect, autoformat, spell checker and thesaurus. One of the coolest features is the ability to browse the Web from WITHIN Word. Amazing. Of course, being a beta version, there are also features that we are all familiar with that seem to be missing like centering and line widths.

This page will give you all of the details about the product along with a list of "wishes" that will soon be implemented within the product. Keep in mind that Microsoft will not entertain any tech support questions at this time, but they are more than happy to take your suggestions on the product!

The Internet Assistant is a great way to create your own HTML pages without having to know much of anything about the commands and formatting. If you are familiar with Word, HTML creation is a breeze. While it is not the greatest browser available, there is something to be said about the ability to create and test within the same product.

HTML Writer Home Page

<http://lal.cs.byu.edu/people/nosack/index.html>

Description:

This is the editor that I always find myself coming back to. It's rough and basic but handles all of the formatting codes and is actually pretty easy to use. It is not a WYSIWYG editor but at least it offers a test button that allows you to call up your favorite browser and test your creation in progress. It also has templates and allows you to load multiple files. The best feature? It's free. Well, "donationware" as they call it.

This page will give you the lowdown on HTML Writer, a way to download it, tips, tricks, troubleshooting and information about the author. There are also links to all kinds of other HTML creation information.

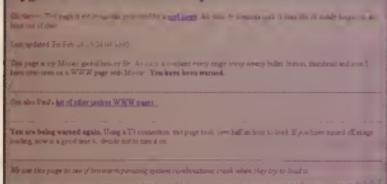
OTHER HTML NECESSITIES

The graphics and icons for those artistically inept or just plain lazy:

Icons and Images for Use in HTML Documents <http://www.uncg.edu:80/~ralph/icons/>

This is an excellent place to download tons of icons to make your homepages very pretty. This page is filled with buttons, arrows, stars, bullets and separator bars all available in non-interlaced transparent GIF format and piled into ZIP files for your downloading pleasure. Well worth the visit.

Zygo's Mosaic Global History



Zygo's Mosaic Global History

<http://129.97.134.11/u/zblaxell/mosaic-history.html>

If you would like pictures to make your homepage happy, this site has lots of them. Well, more than lots. How many is that? Let's just say that this page should be called the Browser-Buster or Web-Whipper or Machine-Mangler. Let me quote the disclaimer on this page, "Using a T1 connection, this page took over half an hour to load. If you have turned off image loading, now is a good time to decide not to turn it on." True to the word. Another disclaimer this page touts is that the author loves to use this page to see if it can destroy servers and browsers. It seems to work flawlessly. For me, I was able to watch my system resources dwindle to less than zero and then graphic file must have gotten stuck sideways in my hard drive and caused it to timeout while this page was loading up. That was cool. The nice thing about the page is if you stop it before it crashes your machine, you are left with tons of pictures to pretty up your homepage. All of them are available for downloading by clicking on the image.

Well, these should be enough to get you going on creating your own homepage. All of these sites have links to more WWW information and HTML creation pages. Also, don't forget to click on the big, ugly "N" in Netscape and then "Cool Tricks" for even more information on HTML creation. Now, a couple of sites that actually have some aesthetic appeal.

PATHFINDER

Welcome to PATHFINDER,
Time Warner's home on the Internet.

Choose a path:

- [The PATHFINDER Catalogue Map](#)
A guide to PATHFINDER (1MB)
- [The Net Page](#)
What's new on the web? (50K)
- [The Cool Site Page](#)
A cool new site! (50K)



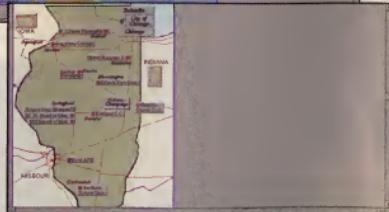
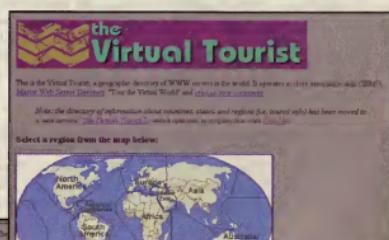
PATHFINDER

<http://www.timeinc.com/pathfinder/Greet.htm>

Time Warner's home on the Internet. From here, you can get *Sports Illustrated*, *People*, *Time Magazine* and anything else that Time Warner has its hands in. You can also fulfill you daily requirement of O.J. with "The OJ Files." Here you will find just about everything you wanted to know about the crime, the trial, the witnesses, the book and anything else that is being said about the crime of the century. As if we haven't heard enough.

Virtual Tourist World Map

<http://wings.buffalo.edu/world/>



This is a cool site devoted to cataloging and displaying servers all over the world. You start with a map of the world and can click on any country. From there you progressively zoom in on the area you have selected until you have a detailed map showing the servers for that area. My test case was zooming in on the Chicago area. After clicking on North America, then Illinois, then Chicago, I was presented with a nicely done map with 3-D boxes listing all of the major servers in the Chicago area fairly close to where they are located. From here, just click on the server and you're there. It didn't have every site in the area but most of the larger servers were represented. Very cool. I'll be visiting this site often.

If you don't feel like typing in the addresses listed above, you can always come to my homepage and jump to them from there. I have many more sites than I have room here to list along with all of my previous articles for Boardwatch, and a whole pile of interesting sites I have found during my "Webulism" episodes. Always a treat and always something new. Links to these and other ChrisPix are available at the Aquila BBS/Internet WWW server at:

<http://www.aquila.com/chrispix/>

If you have any cool sites you would like to see here or any comments, feel free to e-mail me at:

chris.babb@aquila.com

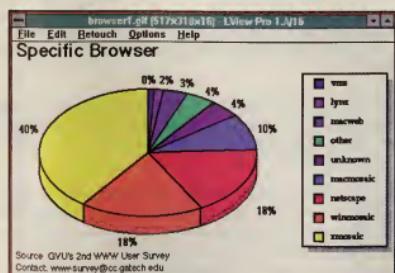
Happy surfing!

PUBLISHING ON THE WEB, PART 3

by Michael Erwin

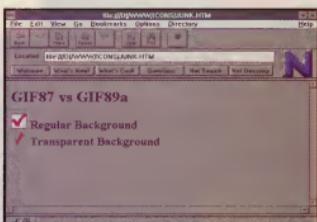
Last month we started covering graphics in our WWW documents. This month we will be working with snazzy graphics in our pages. I'm going to conduct a little informal poll here. How many of you use a graphical browser? 1 2 ...179,000. Anyway you get the picture. A BUNCH of people use graphical browsers such as Mosaic, Netscape or Web Explorer. Matter of fact to see an actual breakdown look at Figure 1.

Figure 1



Those of you that use the graphical browsers, get to experience HTML pages in full radiant color or lack of color when it comes to transparent images. Transparent images are those graphics that look to be floating on the document. They have a "transparent" background color. For example compare the in-line GIFs in figure 2. Notice how the first GIF has a solid white background, versus the second GIF, where it has the same color as the background as the browser. If you have ever wondered how people generate those graphics well this months article is for you.

Figure 2



The cheap way to do this is to paint the graphics background to the same color of the browsers background. The RGB definition for that gray color is 192,192,192. (Figure 3, 4 & 5) This is a simple way to do hidden backgrounds. But since most browsers have an adjustable setting for document background color, like Mosaic. This can create problems where the 192,192,192 gray is the background of the GIF and the background color of the browser is something else.

Well to prevent that from happening. We can create a "transparent GIF." What's the difference between a "transparent GIF" and a regular GIF. Other than the obvious? If you didn't know, there is 2 basic flavors of GIF formats, GIF87 & GIF89a. GIF89a format is the secret to "transparent GIFs." GIF89a images have the ability to set a single color in the color map as "transparent." This forces compatible browsers to use its background color for those pixels marked as "transparent." And the GIF will be the same size, both in dimensions and in bytes. Lets walk through generating a transparent GIF.

Figure 3

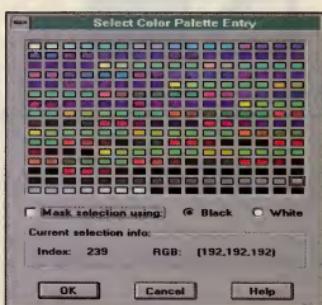


Figure 4

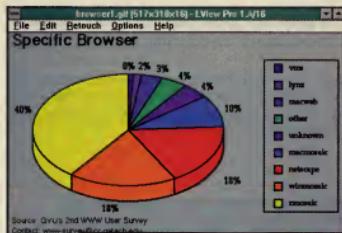
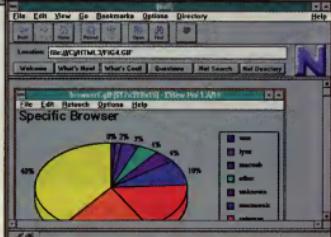


Figure 5



First you need to either create, find or capture an image that you want to convert to transparent background. You should select a graphic that has a simple single color background. (Figure 6) Now we need to determine what the background color's index number is. I will be using LView PRO 16 v1.0, for windows, to help determine the color map index number. If you are running X11, you can use xv. If Mac, then use Transparency. You can find those packages at the following ftp sites.



Figure 6

I want to change that white background to transparent. Notice that I have opened color palette entry table for the image. Oh, by the way, your image needs to be no greater than a 256 color GIF. That way you will have an index that you can work with. (Figure 7). That white background has a color index of 42. See that in the lower corner of Figure 7.

Now here it gets a little tricky for those of us that run DOS or UNIX. The best way I have found to edit the GIF and tell it that color number 42 is transparent is with a little utility called **giftrans**.

There are versions for both DOS & UNIX. I will use the DOS version.

Figure 7

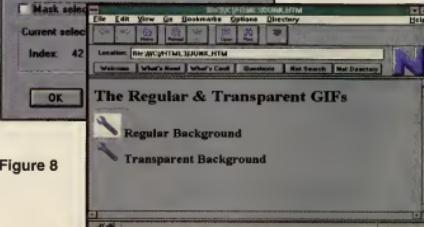


Figure 8

Open up a DOS window, if you are running windows that is. You need to be in the same directory as the GIF you want to convert. Make sure the **giftrans** is in your path somewhere. And then you will enter the following command.

giftrans -t index# old.gif > new.gif <ENTER>

This will take the color "index #" of the file "old.gif", set it to transparent, and save it to "new.gif".

Look at Figure 8 to compare what the difference is. Cool isn't it. Now that you know what transparent GIFs are and how to do a convert from a regular background to transparent one, here is something to remember about doing them. Transparent GIFs work well with simple graphics without many colors in them. Clipart, Table and Graphs for the most part, convert very well.

Now if you have a Mac you have it easy. You run transparency. Open the GIF of your choice. And a color index will appear. Select the color that you want to be transparent, and save the GIF as GIF89a.

Photograph GIFs or GIFs that have a lot of color to them don't convert well at all. Why? Well they have two problems. Problem number one is that the background color is elsewhere in your picture. Think about it this way. You have a lovely picture of your S.O. (Significant Other). She is stand-

LView PRO 16 v1.a:
<http://ftp.cdrom.com /pub/simtel/win3/graphics/lviewp1a.zip>

giftrans:
<http://melmac.corp.harris.com/>
[xv: http://xv.sunsite.unc.edu/pub/Linux/X11/xapps/graphics/viewers/](http://xv.sunsite.unc.edu/pub/Linux/X11/xapps/graphics/viewers/)
xv-3.10-i1.tar.gz

Transparency:
<http://hyperarchive.ics.mit.edu/HyperArchive/Archive/grf/util/transparency-10b4.hqx>

ing in front of a solid beige colored wall. Which is a nice simple background. Right? The problem is when you figure out the color index of that background, it matches parts of the pixels that are in her face! Now when you view the converted GIF, it will appear that her eyes are floating in space! She will not be a happy camper. I wonder if that is where Billy Idol got the song "Eyes Without a Face" from? Now if you want to take the time, you can juggle the colors around so that you have multiple index numbers with the same colors. But that is a lot of work.

The second reason that photographs don't convert well is the same as the number one reason. They have too many colors in the background. You need a nice solid, one color background. Otherwise you will have little floating pixels on the displayed GIF.

The last snazzy thing we will be talking about this month is how to do those wonderful interlaced GIFs. This make your image appear to "fade in." Now that several of the newer Web browsers support them, like Netscape, Web Explorer and with more to come. This is a simple little way of adding pizazz in your graphics with out having a lot of hassle or a display performance hit. The secret to these little jewels is in how you save the image. That is right, it now matters how you save an image.

A normal GIF is saved sequentially. That is to say, the first upper left hand corner bit is saved first then the next until it gets to the end of the line. Then it saves the bits on the second line and so on, until it gets to the last bit in the lower right hand corner of the GIF.

Interlaced images are saved so that it saves the first line, then it will skip a few lines, save another line, and so on, till it goes back to the top get the second line, skips a few lines, save another. Well you get the picture. It takes four passes to save all the lines. Depending on your web browser, you may or may not be able to see what happens when an interlaced GIF is loaded. For example, some of the older versions of Mosaic load the entire image before it is rendered on the browser.

The second part of the puzzle comes together when a compatible browser loads an interlaced GIF. It knows that the GIF is interlaced, so it takes the first line of and explodes the pixel data so that the GIF's appear to be fading in. And after the forth pass, the image will be "fleshed out". If you look at Netscape Communication home page, you will see this in action.

URL:
<http://mosaic.mcom.com/home/welcome.html>

Did you notice how Mozilla faded into view? So now you want to know how to do that don't you? If you are running Windows you can use LView PRO 16 v1.a. It can be obtained from the above ftp site. Once LView PRO 16 v1.a is running, you can go to "Options" and select "Save GIF's Interlaced." This way every time you save a GIF it will be interlaced.

If you have UNIX you can use **giftoppm** and **ppmtogif**, which can be obtained from sunsite.unc.edu. The following would be the command to convert an existing GIF to an interlaced GIF:

```
cat old.gif | giftoppm | ppmtogif -interlace >new.gif
```

This will take **old.gif** and save it as an interlaced GIF named **new.gif**.

As for the Mac uses—well I haven't found a interlacer yet. But I can guarantee that someone will email me the URL to get one.

It is my recommendation that you use transparent and interlaced GIFs where and when appropriate. This will make your pages feel polished. As for using interlaced GIFs, you should do the conversion on every GIF you will be rendering in your Web documents. Not just for the professional look and feel, but for speed. The people browsing your WWW site may not have to wait for the GIF to finish downloading to know whether or not they want to select it as a hyper-referenced link.

Next month we will cover common gateway interface scripts or CGI for short. ♦

internet
your.name@deepcove.com

Voted 1993/94 #1 BBS in Canada
(#6 in North America) by Readers
of Boardwatch Magazine

ONE BISON
ATLANTA

Phone up and
check us out!

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Internet access included

New - 64 line
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Computer Systems.

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5661-1379
1511 8th & 12 - 308-9689
536-5885
5661-1379
Voice 536-5885
Fax 536-7418

Services: Message & File areas for IBM,
OS/2, Mac, Amiga, Novell, GIF's, Connex
PPP & SLIP - 16 lines \$1.25 to .76/hr

\$90/year Cents even less with Student, Family & Senior Discounts!

DEEP COVE Hourly FTP
Telnet, from: **20¢**

Bulletin Board System Ltd., Vancouver (White Rock) B.C., Canada

.RTC

My Company Inc. Home Page

File Edit View Go Bookmarks Options Directory Help

byte-to-rtc.rtc

File Go View Help

RTG

BYTE



A new development brings 10-Mbps networking to companies that are put off by the complexities of networking.

NEURAL NETWORKS
[Page 32](#) Intel and Nestor to Commercialize Neural-Net Chip

An agreement between Intel and Nestor to commercialize a neural processor could affect applications ranging from hand-writing recognition to air-traffic control.

COMMUNICATIONS
[Page 34](#) Fax Gets a Face-lift

This spring and summer, a new wave of products will give fax a face-lift by adding binary-file transfer capabilities.

OBJECT OPERATING SYSTEMS
[Page 36](#) Alliances Could Mean Better Integration.

Microsoft and DEC will integrate DEC's Object Broker distributed-object system with Microsoft's OLE technology, and the agreement will allow Windows-and OLE-supported Mac applications to seemlessly access data in a wide variety of platforms.

OPINIONS
[Page 27B](#) Commentary: Virtual Legality by Victor J. Cosentino

As the law struggles to catch up with technological changes, what happens to our legal, social, and ethical responsibilities?

[Page 10](#) Editorial by Dennis Allen

HOME PAGES FOR WEB, BBS, 'ZINES

RTC (Compressed RTF files) offers *high speed*, image-rich documents to your callers in *real time* (Files average 10-20k with images, 1-2K without and transfer in seconds via 28.8). Use RTC for Home Pages on a BBS, or to enrich the WEB page format with links to a *true magazine format* suitable for publications and product catalogs.

IMAGEN RELEASES REAL TIMES V2.0

REAL TIMES (Fracterm 2.0) works with any BBS to display hyperlinked pages in beautiful, mouse-driven graphics mode. Sysops receive a distributable customized Window viewer, that includes compression for use by their callers. Documents are easily made up as RTF files in word processors, and may be posted on BBS's, WEB or WAIS servers unchanged. REAL TIMES works with any BBS host software, and with any Internet browser.

PRICING: \$590 per server (WEB or BBS), \$390 additional servers, \$250 upgrade to V2.0.

GETTING ON THE WEB

Every business serving a national or world market must now consider the impact of a WEB presence. It's simply the best and cheapest advertising you can buy, and Imagen offers you a number of ways to economically reach millions of customers around the Internet.

Turnkey Systems

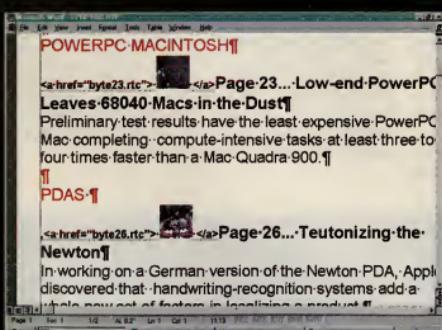
Imagen specializes in a 100% Microsoft WEB solution, featuring Back Office® and MS Exchange®, their awesome new communications server. This highly integrated suite of server products features graphical maintenance without UNIX, and benefits from huge third party support and utilities. It's object oriented and designed to work tightly with Win95. Imagen can offer you simple software bundles right up to RISC servers on fiber optics.

Lease Some WEB Space

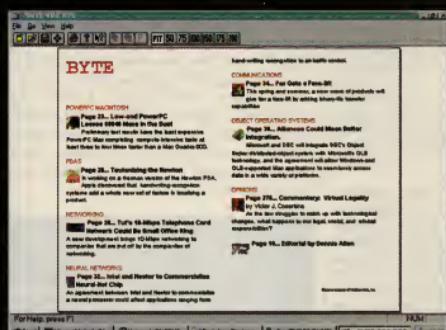
For just \$190 a month Imagen provides you a full 10MB of hard disk space on its RISC server connected to fiber optics. Ideal for high bandwidth use, such as multimedia. Post up to 5000 pages of data, with no other charges. Free setup and a Home Page design are included. Use our new RTC technology to put on a show other WEB sites can only dream about.

Write and Publish on the WEB (or a BBS)

Imagen's new RTC-PRO® utility (\$99, shareware version available) allows writers to compose, do layout, compression, hyperlinking and publishing in one step. This first true magazine interface empowers writers and experts, who can now bring their knowledge and specialties to bear without the permission of anyone. *Free WEB space on Imagen to writers.



Simple HTML syntax in Word builds....



Beautiful Icon Driven Menus (here with TBBS)

DEVELOPER INQUIRIES INVITED

RTC is a dedicated communications file format that can bring speed, beauty, and richness to your application. Files are not scanned and remain 100% readable, searchable, convertible back to RTE and HTML compatible. Talk to us about DLL's and objects for binary fax, wireless docs, newspapers, magazines etc. and see why RTC is the communications file format of the future!

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PEOPLE ONLINE

by Phyllis Phlegar

SATURN GOES ONLINE, POSTHUMOUSLY: GRIEF NETWORKS

In the Summer of 1979, I saw an ad in the newspaper for kittens, Siamese "tortie point" kittens. Out of sheer curiosity as to what a tortie point was, I went to see them. They were odd looking, with speckled points instead of solid ones, like you see on, for example, seal point Siamese. Aside from that, they were Siamese, alright, yappy and energetic, and the mother "Zany Zoe" was very beautiful, with almost black-blue eyes.

Each one of Zoe's 12-week old kittens came up to check me out, but only one stayed, and fell asleep in my lap. She was odd looking, yet cute and apparently very healthy. She went home with me, and I named her Saturn.

I soon discovered that Saturn was quite the clown, and would greet each person who came to visit with a yappy little hello, that sounded like "Wayne's World," no kidding, kind of a "waahhn whuuuhhh" as if she was asking "So, how are you, how are you doing?" And if you answered her, she'd come up with another yappy little phrase. Saturn could carry on a conversation with anyone...I never figured out exactly what she was saying, but she always seemed very interested in whoever she was talking to. And though she didn't grow up beautiful, literally everyone was charmed by her as she looked so intently at them with her almost navy blue eyes.

By the time Saturn was 15 and a half, she was arthritic and had beaten cancer three years earlier. She didn't move very fast and slept a lot, but she was still Saturn. I was grateful she'd lived so long, but when my vet told me her liver was failing and had about three weeks left, I was heartbroken. I took her home, to care for her, to wait, and watch. Saturn now wanted to be held constantly, and I literally carried her around the house with me, lengthwise along my arm, feeling her heart beat against me. I wanted to memorize how she felt, as I held her, still breathing, still alive.

She got very thin but never appeared to be in any pain. One night, in the shadows, as I watched her walking around, and because she was so thin, her arthritis didn't affect how she moved, I remembered the gait of the little tortie point kitten who was born on May 16th, 1979.

On November 1st, 1994, Saturn died, with the advice and help of my vet. My husband and I took her with us and carefully buried her on our land. I became very depressed. For two weeks I could do nothing but cry at first, and then I didn't even cry, just sat around, unable to think straight. My husband was very concerned, and thought maybe I needed some professional help. I did too, but I didn't care, I just wanted to be with Saturn.

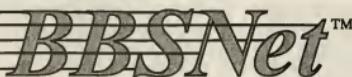


Phyllis Phlegar is a graduate of the University of North Carolina at Chapel Hill, and also holds a private pilot's license. She is a freelance announcer and her work can be heard on Business Radio Network, National Public Radio and the Armed Forces Radio Network. Phyllis' book *Love Online* is now available from Addison Wesley Publishing Company.

Write to Phyllis, at XHBG67A on Prodigy, P.Phlegar on GEnie, Phlegar on Delphi, P.Phlegar on AOL, 71562,407 on CompuServe or at phyllis@cris.com on the Internet.

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at
\$325

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- Integrated Zmodem protocol speeds file transfers.
- Incoming Telnet with forward and reverse FTP file transfer.
- IRC client coming soon, SMTP email and NNTP Netnews available 1Q '95.
- Three versions available: Novell Netware/386, OS/2, or BSD/386
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It's not as if I didn't have a nice life going for me, and plenty of interesting activities to keep me busy. In fact, I had a *Boardwatch* article due and I needed to finish it. Trouble was, I couldn't concentrate and it seemed nothing helped to take the pain away, even a little bit. I'd go to Saturn's grave and pat the ground, and ask her "Are you doing okay?" This was something I think she often asked me in our 15 plus years together, and as long as she was around, I was okay. Now I was not okay.

Finally, a crack in my depression, just large enough for me to get a grip; my *Boardwatch* editor called, and said he was very excited about my upcoming article submission (the one I was having trouble finishing) and not only would he like me to take another week to finish it, but that it could run several hundred words longer. He also said he was very interested in a few other ideas I'd run past him. Within an hour of that call, I got another, from my editor at Addison-Wesley, saying that my book "*Love Online*" was going to press, and they'd be sending the final pages for my approval. ("*Love Online*" is now available at bookstores around the country.)

For the first time in two weeks, I didn't feel hopelessness. And in that moment, I got scared at how Saturn's death had affected me to a point where I wanted to crawl into her grave with her. I thought I must be nuts, how could I be so debilitated; has this happened to other pet lovers too? The vast resources of cyberspace was where I went to admit my feelings, ask for help...and listen.

To my surprise, there were a lot of places to go to talk about pets online, and to find support when a pet is sick, or dies. I'll be talking about the grief networks that I found to be the most accessible to me, but they are by no means the only ones.

With the keyword "PETS" I was soon browsing messages on America Online. There were several vets online, answering all kinds of questions, from iguanas to horses and everything in-between. Talk of grief for pets was dotted within many categories, especially "Questions To Vets."

One of the vets told me that she believes that there is a need for pet

forums like the one on AOL, for people to voice their feelings about the loss of their pet because many non-pet owners don't understand how devastating the loss of a pet can be...that the pet isn't "just a dog" or "just a cat" (or whatever kind of animal) but another family member, who shares their whole life with their owners, and they are mourned like the death of any family member.

She went on to say "I think it's important to have a place to get questions answered, and fears reassured. As a veterinarian, <your Boardwatch> column is a reaffirmation of the strength and beauty of the human/animal bond."

An AOL member whose pet just had surgery, and was near death said "Had I not had the support of pet friends on AOL, I am not sure I could have dealt with my grief." She said the post-operative advice, instructions and explanations of a ferret expert online probably saved her pet's life.

Another AOL member said, after describing his unbearable grief after losing a pet: "Thanks for listening—I don't have anybody around here <at home or work> that understands."

There was a wealth of understanding and veterinary help on Prodigy (JUMP "Pets BB") too. One member said "My dog died yesterday and I'm not dealing with the grieving process very well...I'm so glad I found people that understand how I feel...I'm in so much pain right now, but it's helping me to communicate with other pet lovers here on the bb." (The "Pets To Heaven" grief topic can be found under DOGS but all types of animals are discussed in this area.) Many similar feelings were expressed by other Prodigy members.

GENie has the Pet-Net Roundtable, and the support topic "Illness, Death and Grief." There are also numerous "Ask The Vet" topics, too. As with AOL and Prodigy, many of the responses to my questions about grief networks were pretty much the same, saying that what got them through the pain and the grief were the people online.

There were two particularly touching messages that I personally received from GENie members; part of the first was: "Phyllis, I know this is a terrible

time for you...I can tell how much you loved <Saturn>...Every day for 15 and a half years you came home to that bundle of warmth and happiness. Every day you patted her, hugged her, spoke to her...We <here on GENie> can all lend you some support..."

The second message was to me but to the readers of *Boardwatch*, too. "...So here, my friend, on a computer bulletin board... we cry...we scream...we reach out for understanding...though we are invisible to each other we do not ignore each other's feelings. There are people on this board who have consoled me when no one else would or could."

Delphi has several custom forums involving pets, in particular Petcare and Absolute Best Cats. While smaller than AOL, Prodigy or GENie, I found the support there to be just as heartfelt and genuine, and many messages were from grieving pet owners who were very glad to have found a healing place where it was safe to care, and cry.

All of the grief networks online had other things in common, like live chats, poems and stories, and a list of pets who had gone to "The Rainbow Bridge." As an unknown (to me and everyone I've spoken to) author describes Rainbow Bridge, it's a place between Heaven and Earth where pets wait... healthy and glad to see their owners after they die. For many grieving pet owners, the idea, the possibility, that a place like Rainbow Bridge exists is a great comfort.

Then there's the Candle Ceremony, a remembrance of pets that have passed on to the Rainbow Bridge, and also those pets who are ill or missing. There is a list of names (the "Bridgelist" or "Candle List") which is an integral part of the Candle Ceremony (usually on Monday nights). Over 1,500 pets have been honored, to the great comfort of their owners.

Here is part of a poem that sums up how I feel about Saturn now; I only wish I knew who'd written it.

*Do not stand at my grave and weep.
I am not there; I do not sleep.
I am a thousand winds that blow;
I am the diamond glints on snow...
Do not stand by my grave and cry.
I am not there, I did not die.*

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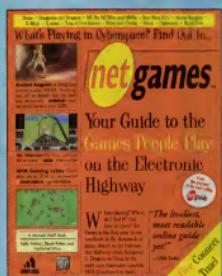
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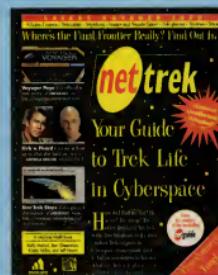
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TECHNOLOGY FRONT

WRITING YOUR OWN CDS (ROLLING YOUR OWN)

by Jim Thompson
Western News Service

If you offer a large number of files for download on your BBS, you already know the value of having those files available on a CD-ROM disk. With a storage capacity of 650-MB (the equivalent of 465 high-density floppy disks) and a data structure that can be read by even inexpensive drives, the CD format is both convenient and cost effective.

But, until recently, creating your own CDs was a relatively expensive process that required sending your data to an outside service bureau for the making of the actual CD. The advent of CD-Recordable (CD-R) systems has changed all that. CD-Rs are certainly not cheap, but system costs are coming down almost monthly while the speed and accuracy of the units are growing with each new model.



Yamaha CDE100 External CD Recorder

One of the very best units currently available is the Yamaha CDE100. With a quadruple (4x) recording speed, 512K buffer and the additional ability to create audio CDs, this half height device provides the best in features, data integrity and design.

(Note: The Yamaha CDE100 is the external version of the CDR100. There is no difference between the units except that the CDE100 is in an external housing.)

The Yamaha CDE100 is compatible with all standard CD recording formats including: CD-DA (Digital Audio) for producing and playing audio CDs, CD-ROM (Read-Only memory), CD-ROMXA (Extended Architecture) for simultaneous handling of text, sound and images and CD-I (Interactive) for interactive multi-media presentations.

EASE OF USE

Creating a CD-ROM of your own is about as easy as it can get, providing you have the proper software

and hardware. I tested the Yamaha CDE100 with Easy CD Pro software from Incat Systems, a combination that made the process not only easy, but extremely fast as well.

Installation of the hardware could not have been simpler. I attached a cable (not supplied with the Yamaha system) from the SCSI-2 port on the CDE100 to my SCSI controller (I used an Adaptec 1542C), then plugged in the supplied SCSI-2 terminator to the CDR. That's all that was needed.

Installation of the software was a breeze. This MS-Windows based program took only few minutes to get up and running. Although the manual indicated that the needed additions to the **CONFIG.SYS** and **AUTOEXEC.BAT** files would be made automatically, I had to add the appropriate lines myself. The

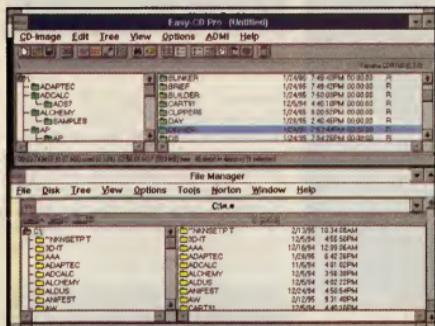
manual was quite clear about what needed to be done, so it was not hard at all. Still, this may cause needless problems for some users.

The one drawback to Easy CD Pro is the need for a dongle (without the dongle, the software will run in demo mode only). I certainly understand the need for software producers to protect themselves from "pirates." But the dongle is not only inconvenient (I never seem to be able to find the one I need when I need it) but somewhat insulting as well.

Perhaps it is just me, but I always get the feeling that I am being accused of wanting to steal something when I have to use such devices. The use of dongles can also get to ridiculous extremes as well. I recall at one point, when such devices were much more common than they are today, that I had a string of five dongles attached to the parallel port of a single machine! Perhaps I am naive, but I believe that most people do respect software manufacturer's user agreements. I understand that reasonable

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precautions are necessary, but a hardware lock (like a dongle) is much too extreme.



Easy CD Pro allows you not only to create CD-ROMs and CD-Audio Disks, but also to write data to WORM (Write Once Read Many) drives, Magneto-Optical drives, tape, Bernoulli, SyQuest and normal hard drives. It also supports the Photo-CD format and copies disc images from non-DOS SCSI hard disks (such as Amiga and Macintosh data) to a CD.

The interface of Easy CD Pro is a clone of the Windows' File Manager, making it intuitive and easy to use. When run, the program actually opens the File Manager along with its own similar window. To make a CD, all you have to do is drag the files and/or directories you want from the File Manager window to the Main Window which contains the tree structure of the target CD. Although the names of the files appear in the Main Window, no data is actually copied. Instead a database, called a "Virtual Image," which contains information on the location of the files, is created on the hard drive.

This virtual image can be used to create the final CD "on the fly." The obvious advantage is that very little (only about 600k for 10,000 files) additional space is needed. The virtual image can also be used to create a real ISO 9660 image (a copy of the what will actually be written to the CD) on the hard disk. This image can then be transferred to the CD. The ISO 9660 image is the same size as what will be copied to the CD.

Both the Yamaha CDE100 and the Easy CD Pro software package allow for multi-session recording. This means that you can add, update or delete files on the CD. When read by a CD-ROM drive that recognizes multi-session discs, all the data is seen as a single logical structure, no matter how many sessions were recorded.

I did experience one problem with Easy CD Pro when recording multi-sessions. The software performed flawlessly until I reached six sessions on a single CD. After this point, I received an error message and was unable to record further sessions. Incat Systems confirmed that this was a "bug" in the software. The problem has been addressed and the next version (ver. 3.0) will eliminate the problem. Those currently using an earlier version should call Incat Systems for information on upgrading to the newer version.

HIGH SPEED

With its 4x recording speed capability, the Yamaha won't keep you waiting when writing data to CD. In one of my sessions, I recorded 75-MB of data. It took just 4 1/2 minutes to record the data plus another minute (5 1/2 minutes total) to complete the recording. To record a full 635-MB on a CD took only 22 minutes from beginning to end.

The Yamaha is also capable of recording at 1x and 2x speeds. Although recording at 4x is the ideal, there are times when the slower speeds are desirable. The reason is that CD recording takes place in real time with data being transferred from the hard disk to the buffer memory of the CD recorder. From the buffer, the data is transferred to the recording laser which then inscribes pits into the surface of the CD at a steady speed. This transfer process is permanent and cannot be interrupted. The data transfer speed is dependent on the mode which the data is written and on the speed of the recorder, according to the following table:

FORMAT MODE • REQUIRED TRANSFER RATE AT:

| (data bits/sector) | 1X | 2X | 4X |
|--------------------|----------|----------|----------|
| CD-ROM | | | |
| Mode 1 (2048) | 150K/sec | 300K/sec | 600K/sec |
| CD-ROM | | | |
| Mode 2 (2352) | 172K/sec | 344K/sec | 688K/sec |
| AUDIO | | | |
| (2352) | 172K/sec | 344K/sec | 688K/sec |

Transferring a real ISO image from hard disk to CD rarely presents problems since the image is one large file with the data and file structure already in place and divided into CD-ROM sectors.



Yamaha CDR100 CD Recorder

Writing from a virtual images can be a different, and more complicated story. In order to write the CD, the software must look-up the location of the file in a database and decide where it should go on the CD. Next, it must then open each file, divide it into CD-ROM sectors and still maintain a smooth, continuous flow of data to the recording device. Because of all this activity, the size of the buffer in the CD-Recorder becomes a critical factor. A large buffer means few problems. It also means that a slower source can be used to hold the original data. Deciding on whether to use 1X, 2X or 4X speeds is determined by the speed of your hard drive and the size of the buffer in the CD-Recorder.

I used a Pentium/66 machine with a fast hard drive and 32-MB of memory and experienced no problems at all at the 4X speed. I used the 2X speed when using a 386/33 machine with a slow hard drive and 8-MB of memory. Easy CD Pro does have a test mode that allows you to check the recording before actually writing anything to CD. This is an extremely valuable tool when recording for the first time.

CONCLUSIONS

The Yamaha CDE100 in combination with Easy CD Pro software provides extremely fast data transfer speeds and optimal reliability.

The Yamaha CD-Recorder is a joy to use. Its ability to record at 1X, 2X and

4X speeds along with its ample 512K buffer size provides full flexibility for almost any system. I also liked its small size. The internal version (CDR100) will fit into a half height drive bay. The CDE100 is the same drive in an external housing.

The Yamaha CDE100 is exceptional — I want one.

The Easy CD Pro software was easy to use and reliable. Its test mode provides an easy way to insure that data transfer will be successful, eliminating the fear of an unsuccessful transfer or of destroying a blank disc. Its ability to record audio CDs is an additional plus. Versions for both the Macintosh and the PC are available.

CONTACTS:

YAMAHA CORPORATION OF AMERICA

Systems Technology Division
100 Century Center Court
San Jose, California 95112
Tel: (408) 467-2300

COST: CDR100 (Internal) \$5,000
CDE100 (External) \$5,500

(Note: A significant price reduction is expected during the 2d quarter of 1995. Check with Yamaha and/or your dealer for current pricing.)

INCAT SYSTEMS SOFTWARE USA

Easy CD Pro
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COST: Single/Double Speed Version \$995 (PC & Macintosh versions available) Yamaha (4X) version \$1,485 (PC & Macintosh versions available)

HOW MUCH CAN A CD HOLD?

Because it is an outgrowth of Audio CDs, the amount of information a CD can hold is measured in minutes:seconds:sectors. Each second contains 75 sectors, each of which can hold 2048 bytes of Mode 1 user data. Recordable CD blanks come in 21- (80 mm diameter), 63- (120 mm diameter) and 74-minutes (120 mm diameter) sizes. The capacity works out this way:

$$\begin{aligned} (21 \text{ min}) \times (60 \text{ sec}) \times (73 \text{ sectors}) \times \\ (2\text{kbytes}) = 184 \text{ megabytes} \\ (63 \text{ min}) \times (60 \text{ sec}) \times (73 \text{ sectors}) \times \\ (2\text{kbytes}) = 553 \text{ megabytes} \\ (74 \text{ min}) \times (60 \text{ sec}) \times (73 \text{ sectors}) \times \\ (2\text{kbytes}) = 650 \text{ megabytes} \end{aligned}$$

These are the theoretically amounts of data, the actual amount of data is somewhat different. Files on CD do not occupy an amount of space equal to their original size, but usually a bit more. The reason for this is that the minimum recordable unit on a compact disc is the logical block. MSCDEX supports only the 2048-byte block size. This means that a file will occupy a space equal to the closest (highest) multiple of 2048 bytes. Of course, directories also take up space.

The CD-ROM standard also specifies that the CD data is to start after a pause of two seconds.

From the theoretical capacity of a CD you must subtract:

Additionally the ISO 9660 file structure needs a minimum of five sectors

$$\begin{aligned} (2 \text{ sec}) \times (75 \text{ sectors}) \times (2 \text{ kilobytes}) = \\ 300 \text{ kilobytes, PLUS} \\ (6500 \text{ sectors lead-in}) \times (2 \text{ kilobytes}) = \\ 13,000 \text{ kilobytes.} \end{aligned}$$

for the root file, path tables and the volume descriptor set terminator. Add another 4,650 sectors for the session lead-out and pre-gap. All this adds up to a minimum of 21,642 kilobytes which you must subtract from the overall size of your final image. ♦

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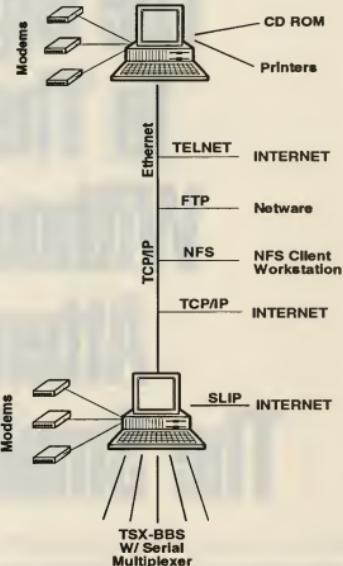
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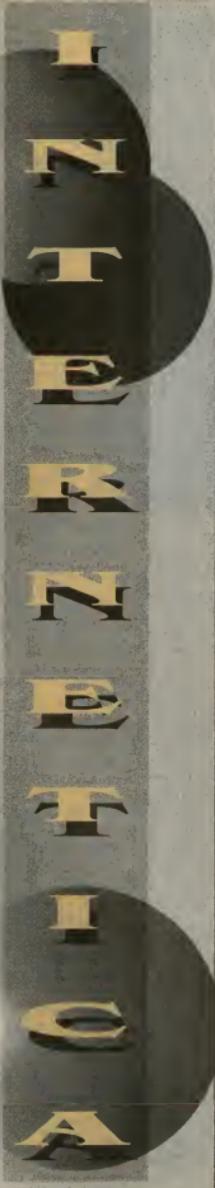
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VOICE OVER INTERNET - THE INTERNET PHONE

by Jack Rickard



One of the joys of doing *Boardwatch* is finding the occasional shareware gem. There must be 150,000 programs out there in shareware and twenty or thirty of them are truly fascinating and useful. The other magazines can't really even cover them because they are done by small companies with no potential for buying advertising. And when we can discover one and write it up anyway, it is simply a kick. We've been beating the drum for a working IP phone since last fall, and even did a bit of a story in our January issue of a first clumsy effort. An IP phone would transmit voice as packetized data over the Internet, and use the sound cards in PC's to allow two people to talk in real-time over the Internet much as you would with a normal telephone.

The reason we've been so high on this concept is that it undermines the entire gravity-defying structure of how long distance telephone calls are billed in the United States and in fact worldwide. It costs me more to switch a call between Littleton, Colorado and Chicago, Illinois than it does to switch it from Littleton to Denver. Yet 10 cents per minute is the best rate we can get to Chicago and its flat rate from here to Denver. Worse, 4.5 cents of the dime goes to the LOCAL telephone companies as a local access fee remnant from the 1994 divestiture. Data services such as CompuServe or Prodigy's network are exempt from this local access fee, which is precisely why connections more on the order of 5 cents per minute are the going rate.

Even locally, the charges for telephone service are chaos. If you live in Chicago, almost all "local" calls are actually billed with per-minute charges—similarly in California. But Atlanta and Denver have large local calling areas taking in the main metropolitan center as well as a number of suburbs and nearby burghs. It's not that it's not fair, it is rather that it isn't even rational. The entire charging structure for telephone service in this country is so riddled with historical detritus, that there is no longer any real economic cost basis for any of it. Rates for local telephone service are based on costs to RBOC, mainly labor, and so they inflate the payroll largely to get larger rates. The first official act of any RBOC facing local competition is to announce massive multi-thousand head layoffs forced by the coming "competitive" era. So what were all those bodies doing in the pre-competitive regulated monopoly era? Basically they were being leased at a markup to the ratepayers. The entire structure is a mess.

An IP phone will not likely change the way we use telephones to talk to each other. But it would demonstrate that the system has holes. Internet services are either flat rate or at low hourly charges of \$2.00 per hour or so. Once you are on the net, a connection to Dublin, Ireland costs no more than one to Shreveport, Louisiana. So voice over the Internet would give us a way of conversing internationally at very low rates, and would provide the service "leakage" demonstration necessary to strike fear and consternation into the heart of the telcos—kind of a personal hobby of mine.

In mid-February, a company titled VocalTec released a shareware software program so revolutionary it may fill the bill for our IP Phone already. And it has leaped into popularity with such suddenness that I have to believe we will see a number of competitors in an ever-improving function of voice over data in a way few expected. It is titled INTERNET PHONE and it works. It works so well, it is already shifting the telecommunications landscape in some inspiring ways.

VocalTec started life in 1991 with a portable, high quality sound device for notebook computers called the CAT. In 1993, they began shipping a local area network voice application titled VocalChat for LAN voice mail. More recently, they've introduced another hardware product titled the VC Card that compresses voice at a 14:1 ratio down to a scant 800 bytes per second—and still sufficiently good to understand speech.

In February, they released a shareware product titled Internet Phone using this voice compression technology. Basically, they take the voice input from any PC

sound card, compress it, packetize it, and send it over the Internet. The software at the recipient's end depacketizes and decompresses it, and plays it on the local PC's sound card. In this way, you can transmit sound over the Internet.

But they've also added a couple of interesting additional features that make this system actually useful for voice communications.

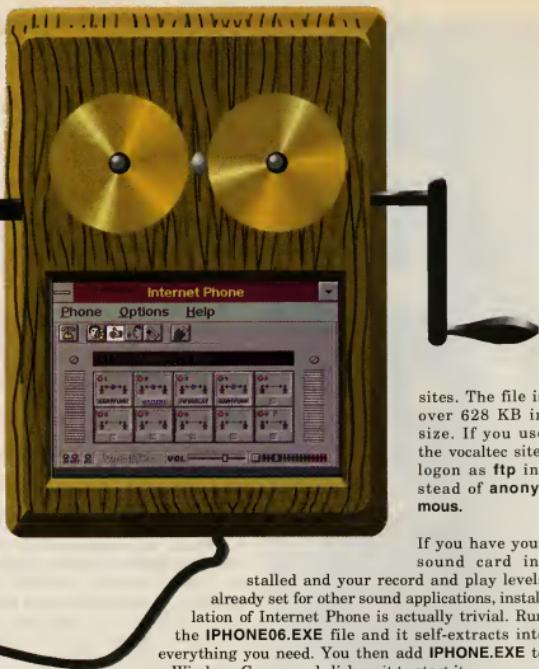
To use Internet Phone you need a PC running Windows 3.1. They recommend a 486SX-25MHz system as a minimum with 8 MB of RAM.

You also need a TCP/IP connection to the Internet. Internet Phone is a WIN-SOCK application so it will work over Trumpet Winsock, LAN connections, and it actually will work pretty well over a 14.4 kbps modem dialup SLIP or PPP account. It has been tested with Trumpet WINSOCK, Microsoft's TCP/IP, and Net-Manage's Chameleon.

Finally, you need a sound card with both microphone and speakers for your PC.

The program works with most sound cards, but we found it didn't work particularly well with older 8-bit sound cards. We tested it well with Creative Lab's 16-bit SoundBlaster 16 and 32-bit Advanced Wave Effects AWE-32 card. The AWE-32 performed especially well and both SoundBlasters come with a little microphone that does the trick.

The program is available in the file **IPHONE06.EXE** from ftp.vocaltec.com or ftp.spy.com or any of a number of other

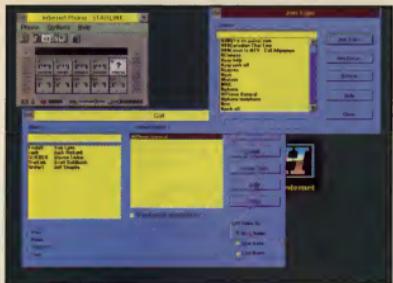


sites. The file is over 628 KB in size. If you use the vocaltec site, logon as **ftp** instead of **anonymous**.

If you have your sound card installed and your record and play levels already set for other sound applications, installation of Internet Phone is actually trivial. Run the **IPHONE06.EXE** file and it self-extracts into everything you need. You then add **IPHONE.EXE** to any Windows Group, and click on it to start it.

The program brings up a little control panel and asks you to select an IRC server. This is actually a key element of Internet Phone and one we were very irritated with initially. It's actually quite useful and cunning. Internet Relay Chat servers are systems on the Internet that allow callers to chat with each other—that is, type messages to each other in real-time. They've been hugely popular with as many as 5000 Internauts on a single server chatting in hundreds of different channels all at the same time. Internet Phone uses IRC servers as telephone directories. By logging onto an IPHONE channel on an Internet Relay Chat server, you are essentially posting your IP address and the fact that you have the telephone in operation. As such, it works much like a phone directory. You can see a listing of everyone on that IRC server, in that channel, that is currently at a PC with Internet Phone up. If you click on one of them, the program seeks a connection to that IP number directly and you can speak to the person by voice.

This all sounds more complicated than it is. First, your voice never goes anywhere near the IRC server. It is ONLY the telephone book. The connection is made from your machine to the other person's machine. Second, the program has a large list of IRC servers in a pick list. You just pick one and it automatically logs you on. You can browse the current channels and click on one that is marked IPHONE easily. And the result is a box display of all callers on the channel.



Internet Relay Chat Channels

The program has some other endearing features. It is voice activated. Sound is probably NOT quite as good a quality as you get over an ordinary phone. And it is half-duplex. Only one person can speak at a time—like a speakerphone. But it does work quite like a speaker phone in that you don't have to click anything, hold down any buttons, or anything else to talk on the phone. It even has a voice activation level you can adjust to trigger it, as well as the expected volume control.

The program also has a set of ten quick-dial buttons you can associate with specific people. So to talk to one of your regulars over the Internet, you simply click the quick-dial buttons. The console has little lights to show when data is going and out and coming in, and a simulated LCD alpha-numeric display that puts up such advisories as **LISTENING**, **SPEAKING** and **DISCONNECTED**. The result is a truly useable appliance a moron could operate easily.

You can leave Internet Phone running in the background and go on with other tasks in Windows. If you receive a call, a bell sounds and the Internet Phone control panel pops up over your application, allowing you to respond. It can be a bit startling the first few times it happens and again, you don't do much to activate it. If you are a little startled and blurt out an expletive, it goes right out to the person calling you.

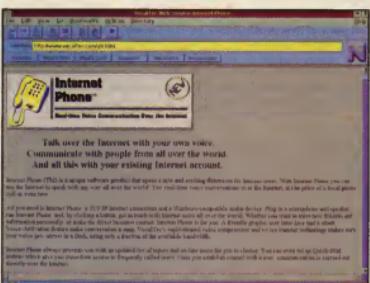
The shareware distribution features a 60 second limit on the amount of time you can talk. This isn't quite as onerous as it sounds. It's not 60 seconds of operation, it is 60 seconds of speech. We had several brief conversations with other parties in that time. Once elapsed, you simply close the application and reopen it for another session. But it does have to relogon to the IRC server, and you lose your quick-dial buttons, and so on sufficiently irritating that you will want to register it. We think they've found an excellent medium to demonstrate the program quite completely and fully functionally, and still provide a very strong incentive to register. While I usually abhor crippleware, I have to admit this is done pretty well in this case. Registration for the program is \$49 until the end of March and \$99 thereafter. You can do so by electronic mail by sending e-mail to info@vocaltec.com or you can connect to their web site at <http://www.vocaltec.com> and fill out a form. In either event, you receive back a file by electronic mail that you can use with the program to enable it.

Simply open the program, click on **REGISTER**, and give it the file name.

Our initial irritation with the IRC logon largely remains. We'd like to make our OWN local phone book and use this Internet Phone to call just a few people we regularly talk to voice while we're also doing things with them over the network. But you can create your own channels on an IRC server. And the IRC function has a strange effect. We were not up ten minutes before we had been contacted by a person from Dublin, Ireland, another from Belgium, and three or four from the United States I'm not particularly enamored of just "chatting" with total strangers by voice, much as I'm not particularly prone to blindly dial telephone numbers to see who is on the other end using a telephone. But this is a lot like HAM radio. Almost all of them were just getting their Internet Phone working and playing around with it. So we talked to most of them about the weather, and how fascinating this program was. Some of them were a bit difficult to hear, largely a function of having their own microphone levels set improperly at their end. Many people use sound cards without ever needing to use the microphone at all prior to Internet Phone. You could easily tell the Internet Phone pros from the newbies. Note that conversations are one-on-one. There is no way at this point to have a "group chat" type of function.

As to bandwidth, it does require some. But perhaps not as much as you would think. VocalTec claims it requires about 7.7 kbps for the raw audio data. This is well within the limits of a 14.4 kbps dialup connection even with the overhead of SLIP or PPP.

Overall, the program is remarkably well thought-out and designed. The reason for our surprise at this is it is simply a new genre of application and we might expect some awkwardness, but we found it had most of the features it needed. And the sound quality is really quite good - surprisingly good. We would still like to maintain our own phone book and use it more privately. And we found it simply does not run under Windows NT. If you try to run it, a little advisory comes up and tells you it won't. It might be nice to leave someone a voicemail in the event they aren't around—or perhaps receive a recorded message like an answering machine.



<http://www.vocaltec.com>

But beyond this, we think it's one of the most innovative and fascinating new programs on the block—perhaps the Internet's first "killer" shareware application. If you have no interest at all in beating the phone company out of long distance charges or talking with someone in Ireland, this is still a lot of fun to play with. And with the normal evolution such a product could take over the next year or so, someday it just might pose an alternative to the voice telephone you use now. VocalTec Inc., 157 Veterans Drive, Northvale, NJ 07647; (201)768-9400 voice; (201)768-8893 fax; <http://www.vocaltec.com>; info@vocaltec.com.

TIME AFTER TIME - OVER THE NET

by Jack Rickard

Each year, sooner or later, we get around to doing "the story." The story is about time. I've had a fascination with what time it was since about age three, playing with my grandfather's railroad pocket watch, and I never have quite gotten over what time it is. Whatever time you think it is, it probably isn't "exactly" that time, and it's generally aggravating to know "approximately" anything.

In 1988, after doing a short story on the US Naval Observatory BBS in Washington, I made a bit of a pest of myself at the then National Bureau of Standards in Boulder, CO,—now the National Institute of Standards and Technology. Dick Davis engineered a masterful piece of work there that allowed us to synchronize our PC's, by modem, to the cesium beam time standard in Boulder to a greater degree of accuracy than the PC clock can actually be set. As a result, we can now know what time it is "really" for the price of a 30 second telephone call to Boulder. And as a byproduct, each year the Boardwatch readership has to endure another rendition of "the story."

This year, the story gets better largely through the addition of more Internet sites and time facilities, some additional software to "get the time," and the "hope springs eternal" concept that I'll learn how to write this story given enough seasons in publication. This being the April issue, and with the daylight savings time change here in the U.S. traditionally falling on the first Sunday in April, the topic seems, well, timely.

The reason time is so hard to nail down is that it is entirely made up. We actually know very little about time itself, but a great deal about how to measure and track it. So most of what you know about time is really about time measurement and tracking, not time itself.

What time it is largely relies on a belief system that somebody gets to "say" what time it is. If you accept that time is a function of the planet's rotation before the sun, you live in chaos. If you take two steps to the east, you're technically in a different time zone than you were a minute ago. In the last century, each city in the United States, and in most of the world, kept their own time using an astrolabe to observe the sun's zenith at noon. So each town had their own time and most towns of any size had a large clock in the public square indicating what time it was. A town ten miles to the east literally had a different time. As long as most activity was local, this worked. But as our communications and trans-



portation efficiency increased, towns were linked together by rail and telegraph and eventually telephone and this time chaos became unacceptable.

In naval navigation, the local time in Greenwich England had been the official time for some time. But it was actually the American railroads that caused the establishment of 24 time "zones" of 15 degrees longitude each, where the local time throughout the zone was the same. The United States was divided originally into four time zones on November 18, 1883; Eastern, Central, Mountain and Pacific and placed under the jurisdiction of the Interstate Commerce Commission. Today, these zones lie five hours in arrears of Greenwich Mean Time (GMT), also the hour basis for UTC time, for our Eastern Time Zone (+05:00), six hours for the Central Time Zone (+06:00), seven hours for the Mountain Time Zone (+07:00), and eight hours lagging for the Pacific Time Zone (+08:00). You can obtain the current UTC or GMT and add or subtract the number of hours indicated to get local time. In the U.S., we would subtract the hours. We will correct forward one hour to establish Daylight Savings Time on April 2nd making the difference between our zones and GMT:

| | |
|-----------|--------|
| Eastern: | +04:00 |
| Central: | +05:00 |
| Mountain: | +06:00 |
| Pacific: | +07:00 |

The plus sign notation indicates we are earlier than GMT. Administration of time zones and daylight savings time was actually moved to the Department of Transportation. As to synchronizing the precise minute and second of time, the agency in the United States charged with decreeing what time it really is for civilian purposes, is the aforementioned NIST. The U.S. Naval Observatory is the official keeper of the time for military purposes.

The basic unit of measurement is the second. By an international agreement entered in 1967, the second is defined as the duration of **9,192,631,770** periods of the radiation corresponding to the transition between the two hyperfine levels of the ground state of the cesium atom. And all "atomic clocks" constructed since that time have actually been cesium beam frequency standards. They don't really do the clock thing much at all, but rather monitor a cesium beam to maintain a stable frequency and monitor the passage of "seconds."

The actual clock is impressive in its own way, albeit disappointing to those expecting a giant clock dial. It's largely a room full of cesium beam frequency standards, all environmentally controlled, whose output is averaged by a computer. This frequency standard ticks off time much more accurately than the planet, as terra firma wobbles and ratchets noticeably in it's less than certain path through the cosmos.

To keep the accurate mark of the cesium beam frequency standard in touch with astronomical reality, NIST periodically adds or deletes a whole second, usually as the last official second of the year. These leap seconds coordinate atomic time with astronomical time within 0.9 seconds, and the result is referred to as Universal Coordinated Time, or UTC. The order of initials in the acronym is derived from the French transposition of words in their language.

The first leap second was added to UTC on June 30, 1972 and there have been a total of 18. So far, all leap seconds have been positive, that is a second ADDED to the time, though there is no requirement for it to always be positive. You could have a negative leap second, we just never have had one.

NIST operates a voice time service at **(303) 499-7111** where you can dial any time and get a time mark on the minute. They also transmit time marks over shortwave radio station WWV from Fort Collins, Colorado at 2.5, 5.0, 10.0, and 20.0 MHz and there are radio clock devices available to set time from these transmissions. But while these are OK for setting your wristwatch, they can't be used to automatically update the time on your PC without significant hardware investments.

And therein lies the rub. Many operations of personal computers, particularly across networks and between systems, have some advantage in both systems agreeing on what time it is. And the clock in most IBM compatible computers is just abysmal at keeping time—often gaining or losing whole minutes or more on a daily basis. The \$3,000 PC on your desk is less able at keeping the time than the very cheapest \$1.50 LCD wristwatch.

But there are some resources you can use to periodically synchronize your PC with an official time standard, and by

doing so regularly, you can keep your PC clock more or less on the money.

The NIST online time service is titled **Automated Computer Time Service** or ACTS and is accessible by modem at 300 and 1200 bps at **(303) 494-4774**. If you dial this number with a modem, you will receive a series of ASCII textstrings after the fashion of:

49779 95-03-03 21:49:35 81 0 +.3 045.0 UTC(NIST) *

This string bears some explanation.

49779 - This striking little number is the last five digits of the Modified Julian Date - a count of the number of days since January 1, in the year 4713 BC. If you add 2.4 million to this number, you get the actual Julian date. I've found no one who really needs to know this number of days, but it does provide a unique date identifier certain never to be repeated for a long time.

95-03-03 - This string represents the year **(95)**, month **(03** - March) and day **(03** in this case).

21:49:35 - This is the hour, minute, and second of the current UTC time - nominally at Greenwich.

.3 - This is a two digit code indicating daylight savings time status. This code is normally **00** for standard time or **50** for daylight savings time. But it goes into a countdown when the time change approaches. In the spring, when approaching the change to daylight savings time, it counts down from **99** to **50** on the actual day daylight savings time goes into effect. It then stays at **50** until autumn when it counts down to **00** when standard time goes into effect. In this example, it indicates 31 days until the time change.

+.3 - This one digit code indicates whether a leap second will be added or subtracted at the stroke of midnight on the last day of the current month. A value of "**1**" would indicate the addition of a second, and a value of "**2**" would indicate the deletion of a second, i.e. the last minute of the month will only have 59 seconds. A zero value indicates there will be no change.

.045.0 - This second one-digit code is referred to as UT1 and it is a correction factor for converting to an older time form still occasionally popular in navigation circles.

UTC(NIST) - An acronym banner indicating what the string is all about - Universal Coordinated Time from the National Institute of Science and Technology.

* - The actual time mark. Transmission of the entire ASCII string is not the actual time mark. At the instant when the asterisk (*) is transmitted, it represents the real time mark. This is actually a pretty cunning item. If you have software on your computer that can immediately send the on-time marker asterisk BACK to NIST, the ACTS system will measure the time from when it sent you the asterisk and when it received your response. If ACTS receives four consecutive

echoes that fall within a certain range of variation, it will calculate the round trip time and divide by two. Using this value, instead of the 45 ms default value, the time mark is tailored to your current telephone line/satellite delay conditions, giving you a very, accurate time mark. The newly corrected time mark is noted by changing from an asterisk (*) to a pound symbol (#).

To make effective use of the time service, you need a software program on your PC capable of dialing the service, reflecting the time mark, and setting your clock. A number of shareware programs exist to do just this and some of them are pretty fancy.

In fact, NIST publishes software to do just this. The source code is available and offered for not only dialup functions, but also for setting your clock via the Internet.

The NIST timeserver on the Internet is located at <time.A.timefreq.blrdcc.gov> or 132.163.135.130. You can get a quick look at the time by entering telnet 132.163.135.130 13. This connects you to port 13 which is the timeserver port that kicks a time mark. If you telnet to it, you will immediately be kicked off but you will receive a time string. You haven't actually been shut out, that's just how it works. And you will see the same ASCII time string you would see if you dialed the telephone number.

You can also ftp into 132.163.135.130. Most notably, this ftp site has software, including C language source code, for several software programs developed by the Time and Frequency Division.

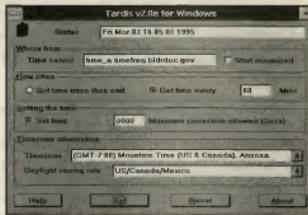
In the </pub/acts> directory, you will find the **PCTIME.EXE** and **PCTIME.DOC** programs. This is the latest NIST time program to run on IBM compatible PC's to dial the dialup service and synchronize your PC clock. They are free, and in fact you can grab the source code while you're there if you really want to have a peek at how it works. The program allows you to configure your modem, enter the telephone number, and so forth, and dial the service to synchronize your clock. It also has a "time line" display with audio tones allowing you to visually see the time, synchronize your wristwatch, etc. In addition, there is a United States time display that shows all time zones, and a list of largish cities and their current local times. Finally, this program will keep a file record of each time you call, and how far off your PC clock has deviated from the "real" time.

The growth of the Internet offers some advantages with regards to time—and some disadvantages. The biggest advantage is that you can easily automate the process of synchronizing your PC clock over the network without even the cost of a long distance call to Boulder. The disadvantage is that you won't get quite as accurate a time mark. You can still nail it down to within a second which for many is "close enough for government work."

As everything in the Internet, time services are described in a Request for Comment, in this case originally **RFC 868** issued in May 1983. It defines a very simple standard for promulgating time. It defines port 37 as the time server port. A time server will monitor this port for a connection via either Transmission Control Protocol (**TCP**) or User Datagram Protocol (**UDP**). On receiving a connection, it will

spew forth loudly a 32-bit binary number containing the number of seconds since **00:00:00 on January 1, 1900**. Client software can of course hit this port 37 on a time server to gain the current time and date in this format, but it has to do the conversion of seconds since 1900 to generate the current date and time.

Our favorite utility for doing this is a shareware program titled **TARDIS** written by H.C. Mingham-Smith of Berkshire England. TARDIS is currently in version 2.0a and works under Windows 3.1 with any WINSOCK connection to the Internet, including SLIP/PPP or over your LAN. We found the program in the file **TARDIS2A.ZIP** at <ftp.cica.indiana.edu> in the directory **/pub/pc/win3/winsock**.



To use **tardis**, simply unzip it and add **tardis.exe** to a windows group. When you first run it, a window will pop up with a number of little items to fill out. The most notable is the server name. You can use **Tardis** to synchronize to any machine running an RFC 868 time server, one in your office perhaps. But we like to keep things pretty official around here. <time.A.timefreq.blrdcc.gov> is the NIST time server in Boulder (you can also use the IP number 132.163.135.130) or you might alternatively use the US Naval Observatory time server at <tycho.usno.navy.mil>.

There is also a maximum correction number you can enter to limit what TARDIS will accept as a valid time. We put this to zero, which actually lets the program accept any time correction.

Naturally, you must specify your time zone and daylight savings time situation. This is where most of these programs make something simple into a nightmare. But TARDIS simply offers a picklist for you to pick your time zone, and another for daylight savings time. Notably, it handles every time zone on the planet and most of the daylight savings time configurations—not just the U.S. or England.

Finally, you can specify how often TARDIS should do a time correction—in minutes. You can then shrink the program down to icon size, and it will dutifully correct your time automatically as often as you like—to within about a seconds accuracy. The program is \$20 to register per machine or \$40 per site.

Tardis also has a big brother titled **NTTARDIS** for the Windows NT operating system released in September 1994. This program can also act as a time SERVER. It is available in the file **NTTARDIS.ZIP** from <ftp.cica.indiana.edu> in **/pub/pc/win3/nt**. H.C. Mingham-Smith, 33 Arthur Road,

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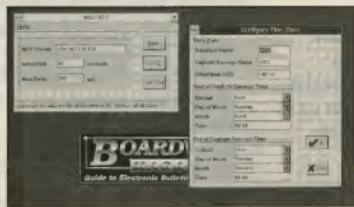
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RFC-868 simply didn't promulgate time accurately enough. First, it only noted time in an integer of whole seconds in the first place, and it didn't take into account the round-trip delays through the network - typically 225 milliseconds but very variable. As a result, there were several updates to the Time Protocol. The most recent was in March of 1992. RFC 1305, drafted by David L. Mills of the Electrical Engineering Department of the University of Delaware is over 300 KB in size, compared with about 3 KB for the original RFC-868. It describes a very rigorous methodology to promulgate the correct time to within 50 milliseconds anyway (50/1000 of a second). This is Network Time Protocol Version 3. Part of this was done by extending the transmitted time to 64 bits, with the first 32 bits entirely compatible with the original RFC 868 indicating the number of whole seconds since the first second of 1900. The second 32 bits indicated a fractional part of a second to a granularity of about 200 picoseconds (billions of a second). So the data format is now capable of expressing accuracy we can't really achieve over the network. But the specification also noted ways to calculate the round-trip delay and factor them out—achieving accuracy in the 50 ms range.

In August 1992, Mills drafted RFC 1361, a more modest document describing the **Simple Network Time Protocol** subset to NTP Version 3. This retains the 64-bit fractional second data format, but foregoes most of the net gyrations to factor out packet delays. The result is a less accurate protocol for simple time applications, that still probably does a bit better job than the original RFC 868 protocol. These RFC documents are readily available by ftp at ds.internic.net in the */rfc* subdirectory.

We did find one program for Windows 3.1 that uses Simple Network Time Protocol. Titled **WinSNTP Version 1.5f**, it was created by Solaris Technologies of Los Altos California and released as shareware in the file **WSNTP15F.ZIP**. We found it at sunsite.unc.edu in the directory */pub/micro/pc-stuff/ms-windows/winsock/apps* and it carries a requested registration of \$25.



WinSNTP is slightly less elegant in the way that you set time zone and daylight savings time. But it has a somewhat unique function in that you can specify a deviation range, 100 ms default, that you want your PC clock kept to. It will adjust how often it polls the time server to maintain that accuracy. If the retrieved time is off by more than the 100 ms, it will double the frequency it polls the server until it

achieves that accuracy—up to a limit of 16X as often. Again, you must enter a time server which can be local but we again found time.A.timefreq.bldrdoc.gov to work just fine.

For additional information regarding the time service, address e-mail to time@time.nist.gov or by contacting Network Time Service, Time and Frequency Division - Mail Stop 847, National Institute of Standards and Technology, 325 Broadway, Boulder, CO 80303; (303)497-3903.

THE PC-INTERNET CONNECTION

by Jack Rickard

There must be a gazillion Internet books on the market currently, and the mean quality and usefulness of such books seems to be plummeting as a function of sales. We have known about THE most useful and fascinating book on the topic for PC users in the universe since last summer, when we were asked to review it. It is not currently available at any price, and its publication remains a little unsure at this point. It will be at least a venal sin in the annals of the Internet if it does become available, as it is the book most of us need.

Bernard Aboba first showed up in publishing circles of interest to us with a book titled the *Berkeley Macintosh User's Group Guide to Bulletin Boards and Beyond*. It contained an astonishing amount of detail. Aboba went on to publish the *Online User's Encyclopedia*. We've become a fan of Aboba's based almost entirely on the huge amount of research and information gathering this man goes through to piece together truly useful books. I'm uncomfortable even classifying these books with the run of the mill "Let's sell an Internet Book" fare available today.

His latest work, as yet unpublished, is titled *The PC-Internet Connection, TCP/IP Networking for DOS and Windows*. We've seen review copies of this and it covers every aspect of connecting a PC to the Internet using DOS programs, Windows programs, Windows NT programs, Windows for Workgroup programs. It covers it down to how to install packet drivers, Windows shims, using Novell's ODI, without ODI, etc. to a level of detail that is just unbelievable. It includes little stack diagrams for every conceivable scenario you would want and lists literally thousands of shareware programs, shims, freeware utilities, commercial software to connect ANY PC mis-configured ANY way you like, and still do useful things on the Internet. The most recent projection of when it might be available is May, and Publishers Group West is slated to be the publisher at \$32.95. The book is slated for 600 pages (ISBN: 1-8839-79-00-5). The last I heard, they were trying to get Aboba to tone down all the technical stuff to make it more appealing to the unwashed. Sometimes you wonder how publishers got to be publishers. PLEASE Bernard, don't do this thing.

As I mentioned, the book is just not available. But the need for it is, and PARTS of the book are - more or less in unpublished form. Aboba also compiles an ASCII text FAQ (Information file containing Frequently Asked Questions and appropriate replies) for the USENET newsgroup *comp.protocols.tcp-ip.ibmpc*. This newsgroup contains ongoing discussions for products and techniques to connect your PC

to the Internet and certainly comprises one of the more useful USENET newsgroups we've found. Compiling the FAQ is one of the techniques Aboba uses so rigorously in putting together the book.

The FAQ is 63 pages long and is available at <ftp://ftp.netcom.com/pub/ma/mailcom/IBMTCP/bmtcp.zip>

There is also a Web home page with a good bit of this info at: <http://www.zilker.net/users/internaut/update.html>.

Pending publication of the book, this FAQ represents the most thorough treatment of connecting your PC to the Internet we've found anywhere, with pointers to other FAQ's specific to Windows, Windows NT, etc. in abundance.



DR. BOB

by Bob Rankin

If you're like a lot of sysops I know, you spend long hours tending to fussy modems, flaky hard drives and demanding users. So it goes without saying that you don't sleep a lot, and you have little or no time to "surf the Net."

Ah, but surfing... what a farce. The guy who coined that phrase must either have a Cray hooked to a private T3 line or live somewhere in Southern California. I dial in at 28.8K to a local BBS with a T1 link and I still hit all the red lights on the Infobahn. It's more like sledding through mud.

I think I have a solution, though. All you need to do is install about 8,000 gigs of RAM on your BBS and cache the ENTIRE Internet. Et voila... sub-second response time even for the graphics-infested White House web page! You could probably even charge more for service like that.

Now that I've got that out of my system, I'll offer you my list of essential Internet resources for net-starved sysops. Take advantage of each one, and you'll have the tools to build a better 'Net-connected BBS.

Bob Rankin, known as "Doctor Bob" in the online world, is a computer programmer and consultant who enjoys exploring the Internet and sharing the fruit of his experience with others. His free guide *"Accessing The Internet By E-Mail"* has circulated widely on the Internet.

Rankin has also authored *"100 Cool Things To Do On The Internet"* and *"Doctor Bob's Internet Business Guide"*, which are available for \$5.00 each. For details, send e-mail to bobrankin@mhv.net

USENET GROUPS FOR SYSOPS

If you're into computer telephony, you should consume a steady diet of *Patrick Townson's Telecom Digest*. This moderated mailing list is gated to Usenet as <comp.dcom.telecom>

and is full of telecom Q&A, interspersed with the wit and wisdom of Townson. Highly recommended.

Another related Usenet group is <comp.dcom.telecom.tech>, which is billed as "Discussion of technical aspects of telephony". It's not necessarily more technical than <comp.dcom.telecom>, but it is not moderated.

Here's a bunch of newsgroups that deal specifically with the BBS arena. Tune in for discussion, ask that burning question, or get your system a little publicity.

- <alt.bbs>
Computer BBS systems & software
- <alt.bbs.ads>
Ads for various computer BBS's
- <alt.bbs.alisysop>
SysOp concerns of ALL networks and technologies
- <alt.bbs.doors>
Bulletin board system add-on executables
- <alt.bbs.internet>
BBSes that are hooked up to the Internet
- <alt.bbs.lists>
Postings of regional BBS listings
- <comp.bbs.misc>
All aspects of computer BBS's
- <clar.nb.online>
Newsbytes: online services, Internet, BBS

Here's a sampling of groups for technical discussion of BBS platforms. Many of them are frequented by the vendors so you're likely to get timely responses if you post a problem or question.

- <alt.bbs.majorbbs>, <comp.bbs.majorbbs>
The MajorBBS by Galacticomm, Inc.
- <alt.bbs.pcboard>
Technical support for the PCBoard BBS
- <alt.bbs.searchlight>
Searchlight BBS system discussions
- <alt.bbs.wildcat>
WILDCAT! BBS from Mustang Software, Inc
- <comp.bbs.tbb>
The Bread Board System BBS software

And here are a few more you may want to keep tabs on, if you don't have enough to worry about already.

- <alt.hackers>
You never know what they're up to...
- <alt.hackers.malicious>
The really bad guys—don't take candy from them

THE HACK REPORT MAILING LIST

Mark Slemko (marcs@alive.ersys.edmonton.ab.ca) is moderator of this monthly informational newsletter which warns of hacked, hoax, Trojan Horse, and pirated files that have been seen posted on BBS's worldwide. Not really a Usenet thingie, but it sounds interesting anyway.

USENET FAQ'S YOU SHOULD HAVE ON YOUR BBS

It will be worth your while to store local copies of several Usenet FAQ's on your BBS to avoid the inevitable newbie

questions and hopefully ward off those nasty notes complaining that someone from your system spammed ALT.* with ads for thigh cream. Here are my suggestions:

FTP to <rtfm.mit.edu>, get the to the <pub/usenet/news.answers> directory and scoop up these files:

- **Finding-addresses**
 - how to find someone's e-mail address
- **Internet-services/book-list**
 - Savetz's Unofficial Internet Book List
- **Internet-services/list**
 - Yanoff's Special Internet Connections List
- **Mail/internet-network-guide**
 - how to address mail to various networks

Also ALL the files in <pub/usenet/news.announce.newusers> are must-haves.

LAUGHING ALL THE WAY TO THE E-BANK

New forms of electronic commerce are emerging that enable BBS operators to make their electronic wares available to the Internet community. You can even get paid without the hassle of setting up a merchant VISA account.

First Virtual Holdings has developed what they call "the world's first merchant banking system for Cyberspace." By linking Internet technology with the banking world, The First Virtual Internet Payment System allows anyone to sell information products on the Internet and have the proceeds automatically deposited into a checking account. And start-up fees are extremely reasonable at just \$10 for new merchants.

Nathaniel Borenstein, chief scientist for FV told me this could be especially good news for BBS's that have content which is of interest to the broader Internet community. Borenstein says:

"This has long been a missing piece for BBS operators who want to connect to the Internet. How do you let outsiders in to your BBS and get paid for it? Because of the lack of answers, most BBS Internet connectivity work has focused on letting your BBS users out onto the wider net, as a service for which they pay the BBS sysop. But a BBS with lots of good content might be able to make a lot of money in the other direction, and FV provides a way for them to do it."

Basic info on First Virtual can be found on the Web at <http://www.fv.com>, or by mail to <info@fv.com>. If you want information on how to modify your FTP or WWW servers to be First Virtual compliant, you can find technical specs and operational code via ftp at <ftp.fv.com>, in the <pub/docs> and <pub/code> directories.

And how about your BBS platform vendors? Who will be the first to put out a product with built-in FV support?

Netcash is another means of passing filthy lucre around the 'Net. You may have read about NetCash in recent *Boardwatch* issues, but I recently heard from Bob Houston that they have added a new wrinkle.

NetCash can now be purchased via e-mail, by providing the information found on the face of your check. They debit your checking account and send a coupon which you can then send to any NetCash merchant. Previously you had to purchase NetCash via a 900 number or by faxing a check, so this is a big step up the convenience ladder for NetCash.

I told Houston that if they worked up a Web form that allowed buyers to fill in the particulars and forward the NetCash directly to the vendor, he would really have something. He liked the idea, so maybe by the time you read this you'll be able to put a link on your Web page to enable that. Send e-mail to netbank-info@agents.com for more information on NetCash.

TELNETABLE BBS SYSTEMS

Hey, you might as well check out competition on their dime! Here's how to get various list of BBS's accessible by telnet.

Gopher to: <gopher.utexas.edu> (port 3003)
select <pub/output/bbs>
Gopher to: <gopher.uidaho.edu>
select Search Menus of This Gopher, enter "BBS"
Gopher to: <itsa.ucsf.edu>
select Misc. Gopher Services / Misc. BBS
WWW VIA TELNET

Don't have access to the World Wide Web on your system? You can telnet to a public lynx server. Try <www.njit.edu> or <fatty.law.cornell.edu>, and enter "www" when prompted for login. Slam bam, you're on the web. Note that the "fatty" server supports forms, so use this one unless the other is busy.

A FEW INTERESTING GOPHER HOLES

Here are some of my favorite gopher sites. Recommend them to your users and then start charging by the hour for connect time. :-)

<wiretap.spies.com>
- electronic books, etc.
<cwis.usc.edu>
- Gopher Jewels (pack for a long stay)
<spinaltap.micro.umn.edu>
- Gutenberg project
<english-server.hes.cmu.edu>
- art, poetry, history, recipes, etc.
<library.wustl.edu>
- WorldWindow
<marvel.loc.gov>
- Library of Congress online

WEB SEARCH TOOLS

Looking for frogs on the Web? Hop on over to one of these spots...

<http://webcrawler.cs.washington.edu/WebCrawler>
- The WebCrawler
<http://lycos.cs.cmu.edu>
- The Lycos Search Engine
<http://www.cs.colorado.edu/home/mcbryan/WWW.html>
- The World-Wide Web Worm

...and you can try out a few WWW search engines. Of course you can search for whatever you like but you really should get that Virtual Frog Dissection Kit.

THE USENET APB

People are talking about you on Usenet, or at least they might be. There's a free service called the NetNews Filter run by Stanford University that allows you to receive any posts made to Usenet newsgroups that match the keywords in which you are interested.

Let's say you've got this sneaking suspicion that people are saying unkind things about your new InterGalactica software product. You can pinpoint the evil-doers by sending a note to:

netnews@db.stanford.edu

In the body of the note enter the command:

subscribe InterGalactica

Once a day the filter will rummage through the Dung Heap for all postings that contain your search word(s) and return the text of those that match.

This is also a great way to find out which Usenet groups are relevant to a particular topic and is also a nifty backdoor means of getting Usenet by e-mail! Send HELP to the server to get full details on all the different search and retrieval options that can be used.

THE VICARIOUS NETIZEN

More than half of the countries with some form of Internet connectivity have only e-mail at their disposal. But I have a feeling that the percentage of people with full Internet access (ftp, telnet, gopher, WWW, etc.) is surprisingly small even in the better-connected countries of the world. I'll be bold and put the number at 50 percent. Step outside the halls of academia and you can cut that number in half.

Fortunately, you can access almost any Internet resource using special-purpose servers that act on your behalf, returning the results by e-mail. Servers exist for FTP, Gopher, Archie, Veronica, WAIS and almost every Internet function with the notable exception of Telnet.

I've taken a shot at documenting all of this information in "Accessing The Internet By E-Mail", a free guide you can get by following the instructions in my credits.

CAN YOU VACUUM IN A VACUUM?

Robots may not be doing your rugs yet, but a busy sysop should have a mailbot to handle routine inquiries. I found a good one recently called Embot, which is a shareware product of Dave Taylor (the Internet Mall guy).

Embot will automatically respond to incoming messages by either sending a stock reply or by delivering a requested help file. It's very easy to install in a UNIX shell account, and is worth the \$25 asking price if you're doing it all manually now. You can try out my incarnation of Embot, (which I have affectionately named MailBob) by following the instructions in my credits. ♦

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COOK REPORT

SLASHED NSFNET STAFF FACES "CATASTROPHIC SITUATION" ENDANGERING CREATION OF NEW INTERNET ARCHITECTURE

FOUR CRISES IMPACTING SURVIVAL OF SMALL PLAYERS AND DNCRI'S ABILITY TO PROVIDE ADULT SUPERVISION FOR COMMERCIAL GOLIATHS DESCRIBED

Gordon Cook,
is Editor and
Publisher of the
monthly newsletter
The Cook Report on
Internet/UNREN and
can be reached at
cook@cookerport
.com

While Internet competition is now completely free and open, some of the biggest players are only just entering the market, and there are several factors that could enable the large players to begin to put the choke hold on smaller players rather swiftly. Unfortunately in this most critical moment in the commercialization of the network, we have found that those at the National Science Foundation who, nominally, are in control of ensuring a level playing field are in fact being overwhelmed. Where good people have been trying to exert leadership, we have now, partly because of internal struggles at the agency, and partly because of crises of unanticipated complexity brought on by the increasing speed with which the Internet land rush is playing out, something approaching a power vacuum at the center.

The NSF Division of Networking Communications Research and Infrastructure (DNCRI) has been in the past the only hand on the tiller of public responsibility in the Internet as an arena that is totally outside the realm of Federal or State regulation. However, in the face of the commercial onslaught, we have now only a small group of feds who find themselves alone and overwhelmed in a face-off on a playing field where claims are being staked out by the four largest IXCs, the seven Baby Bells, the largest CAP, IBM, Apple, AOL, and Bill Gates.

While we have been piecing this story together for the past six months, the current situation—described as catastrophic by an NSF source—has been brought about by a complex series of events going back at least two years and perhaps longer.

THE STAFFING CRISIS AND DNCRI'S AGENDA

Perhaps through bureaucratic ineptitude, DNCRI, which under the leadership of Steve Wolff, created the Internet in the United States, is now without a Director and faces little prospect of getting one before June. Wolff, who announced his departure almost a year ago, left NSF at the beginning of the first week in January, and now works for Cisco. In the meantime without a permanent Director to replace Wolff, other vacancies in DNCRI can not be filled. DNCRI, which has been staffed with 12 to 14 people, has been effectively cut in half. Nevertheless, it is still responsible for new program implementation in the following areas.

1. A roll out of the Network Access Points by April so that the ANS run backbone service can be turned off by April 30
2. The implementation by MCI of the vBNS very high speed backbone service connecting five national super computer centers.
3. The rollout of a new service called the routing arbiter. This is an effort to assure a neutral service that provides the equivalent of uniform road maps to all commercial Internet service providers.
4. Transition of the major academic regional networks off the government provided backbone and into agreements with commercial service providers, meeting at the NAPs or network interchange points.
5. Running of the Internic (Internet Network Information Center), where AT&T, General Atomics and Network Solutions cooperate in delivering administrative services for the commercialized network.
6. Preparing and issuing a new solicitation to replace the International Connections Management award, which is in its final year.
7. Developing a new Program Announcement for "meritorious high bandwidth connections to the vBNS."

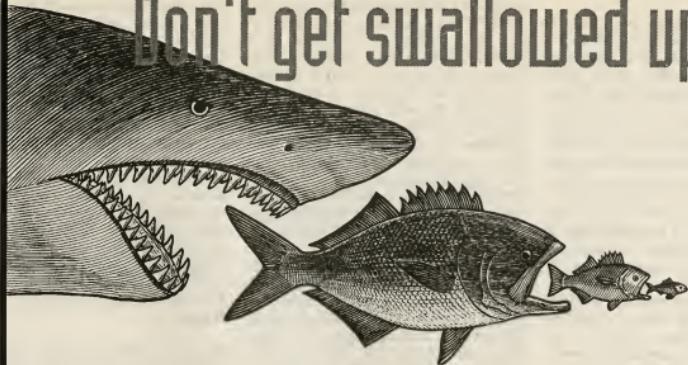
FOUR CRISES AFFECTING COMMERCIALIZATION

Amidst the staffing problems just described, crises affecting the commercialization of the Internet have begun to blaze out of control around the remaining beleaguered staff who are left inside DNCRI. We offer here short descriptions.

1. Ameritech has made it almost impossible for a national provider, Net99, to connect to the Chicago NAP, having lost its application twice. [See our description in the March 1995 *Boardwatch*.]

We sense that by stepping on Net99's toes in Chicago Ameritech's AADSNet was positioning itself against Net99's partner MCS, which currently owns the majority of the Chicago market. A related problem in building the new interconnect points (NAPs) is that for technical reasons the Chicago and California NAPs don't yet work. Just as Milo Medin warned Bellcore late last August would be the case, no working interfaces between ATM switches and T-3 Routers exist. Consequently, the RBOC NAPs are

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installing FDDI rings as a band aid solution - something they should have started with last summer.

2. Network Solutions, the InterNIC contractor in Herndon, Virginia, is responsible for giving out blocks of Internet address numbers. It has in the last three months become much stinger in its allocations and is insistent that where possible only the larger national carriers receive them. Because of the pressure on routing tables there are valid technical reasons for these changes. However, it is tantamount to giving the most powerful players control over handing out the equivalent of phone numbers to their competitors without which they cannot survive. It is a situation which makes many nervous, for it is fraught with the possibility for abuse. It is also a situation which DNCRI, being already overwhelmed, would be essentially powerless to deal with if it got out of hand.

3. For the first time, DNCRI is terminating the holder of a cooperative agreement. Recently, a project review panel for the InterNIC project determined that General Atomics, with a few notable exceptions, has performed poorly under its award to provide the Information Services portion of the InterNIC. Based on this recommendation, funding for their activity would have been discontinued at the end of the current program year (March 31, 1995). However, on learning of NSF's decision GA discharged the single remaining individual whom the panel felt had performed admirably. Since that individual was also the only remaining co-principal investigator and was covered by a key personnel clause, she could not be "diverted from the project" without the prior consent of NSF. Accordingly, the GA award has now been largely terminated with a few pieces remaining in place only until February 28 to minimize the impact of the change. Needless to say, this effort has consumed precious NSF resources at a time when they are already strained.

4. Network Solutions has also been coping with a 50 fold increase in commercial domain name registrations in the past two years hitting 4,000 applications two weeks ago—contrasting with under 100 per month two years ago. We have seen some skirmishing from network users who had taken out domain names that entities such as MTV claimed belonged to them via trade mark, even though they had not claimed them. So far these have been settled out of court. Now however, one

has landed in district court in Illinois. A small company named Knowledge Net is suing David L Boone who obtained a [knowledgenet.com](http://www.knowledgenet.com) registration from Network Solutions and refused to give it up. The suit, of which we have obtained a copy, lists as Boone, D.L. Boone and Company, Digital Express and Network Solutions. It complains about Rob Raisch's Internet Company Messenger domain service. And finally it names, as someone who should have been exerting supervision over Network Solutions, Don Mitchell of DNCRI. Brought under the Racketeer Influenced and Corrupt Organizations statute of 1970, it demands a jury trial.

At present, there is no case law establishing any relationship between trademarks and domain names. This case might establish such a relationship. Should such a thing happen, the Cook Report speculates that among possible outcomes might be the charging of annual fees for .com registration and maintenance (where NSF has no charter to provide support). We also note that the charging might be at a price that the apparent need to purchase legal examination of applications and liability insurance for the registration activity will force substantially higher pricing than would otherwise be the case. The impact of the lawsuit is likely to make it harder for the little guy to do business on the net.

These are the only four serious problems of which we are aware. There very likely are others. For example, because of other work commitments, Peter Ford, of the Los Alamos National Laboratory will not remain available as a technical advisor to DNCRI. The present situation is not just serious but dangerous. Alarm bells we are hearing is that DNCRI will drop something major. That it is inevitable.

Just as these four crises are swamping the ability of those on the scene to cope with anything new that goes amiss, they are also creating a situation on the Internet playing field where the there is no "adult supervision" of the large telco's and computer and software makers who see a market worth billions. A situation has emerged where we could be facing a demonstration of how business can be turned loose to exploit a national resource to increase market share, and where allegiances are more to industry coalitions like the Cross Industry Working Team than to the American people.

POWER WITHIN NSF

A common theme of our discussions with people inside and outside the NSF over the last several years has been that, because of an unusually strong Inspector General and a series of weak Directors, clear lines of authority within the agency do not exist. We bring it up because, if a serious search for Steve Wolff's replacement didn't get started for more than six months after he announced that he was leaving, this is one reason why. We also mention it because, if paper work that used to go through Grants and Agreements in three weeks, now takes six weeks, this is another reason why. And finally it has bearing on the quality of the people who are coming to work at the Foundation and the quality who are leaving.

In April of 1993, a former NSF staffer told us that Linda Sundro the IG at NSF had been in fact running the foundation, since Eric Bloc left. We were told a lot more than this but never mentioned it in public because we could get no verification. Later in 1993, Lisa Kimball, a partner of the Meta Systems Design Group in Arlington, Virginia, told us that she had received communications from people at NSF in the aftermath of the publication of the Inspector General's Review of the NSFnet. In February 1995 when we called her, she verified that there was an environment where people were unusually cautious, because they sensed the IG continually micro-managing them. She said that in 1993 she had received communications from people at the Foundation whom she regarded as professional colleagues who told her that e-mail was being watched, and that they had been warned that using e-mail for personal purposes could result in their being fired.

She remarked that "this policy coming out of the agency that was putting the Internet and e-mail on the map world wide seemed bizarre. How on earth could one possibly draw the line between professional and personal uses," she wondered? We asked her if she had heard of continuing problems at NSF. She said not really because she had lost contact with people there. "After all in this town when sending someone e-mail to invite them to lunch could become a threat to their career, these people were rather effectively cut off from her circle of contacts."

During the summer of 1994, a key official pointed out that within the founda-

tion the Inspector General's (IG's) office had one person for every 40 staff foundation wide—adding that the intrusiveness of the IG had become such that people were afraid to do their jobs. Then during the fall of 1994, we obtained detailed verification of what in effect has been rule by the IG's office since Director Eric Block left nearly four years ago. Cliques within the foundation determined to achieve their own ends have, we are told in great detail, allied with the IG. We mention this because it has become clear to us that rule by the IG rather than the Director has created the environment that has led to many problems at NSF, including DNCRI's staffing problems.

WHAT SHOULD BE DONE?

Since we have mentioned her first, we shall start with the IG. We have ascertained that she reports to the National Science Board. That entity ought to examine these allegations and if it finds substance, take appropriate action. However, the Science Board is a group of very busy people who have other full - time jobs. Consequently, it will tend to work by committee. Such a process will take an inordinate amount of time.

Facing a "catastrophic situation" DNCRI doesn't have time to wait for the Science Board to act in these areas. Therefore, the need for decisive action shifts to the Office of the Vice President. Since the Vice President is in so many ways responsible for the idea of an NREN, the expansion of NSFNet, the idea of NNI, and the idea of making government work: he, Mike Nelson, and Tom Kalil ought see the crisis of the commercializing Internet as a significant opportunity to show Mr. Gingrich that the Clinton administration still has the ability to do something proactive—something before something major is dropped at NSF.

They should intervene at NSF. They can certainly sit down with Mel Ciment and Paul Young in the CISE Directorate and establish, in coordination with DNCRI, a first hand view of the problems. By going as well to the NSF Director and the IG, they can also establish whether there are any resources at NSF that can be brought into assist DNCRI. If there are none, they should also have the ability to reach out with the power of the Vice President to find resources in the Federal Government or in private industry to help out at NSF.

CONCLUSION: THE WHITE HOUSE SPEAKS

In short, this crisis is an opportunity for the Vice President's Office to rise to meet challenges in the two most critical areas in which Mr. Gore has tried to define as his personal top priorities. If the Vice President does not rise to this challenge, his failure to do so will show that Mr. Gingrich is right. That the future of the Internet will have devolved **totally** from the government's hands into those of private industry. We believe that the government should not build and run the network, and we believe that government regulation is not necessarily the answer. But if neither of these occur, we believe very strongly that the Clinton administration, if it is to have any respect shown it in the Internet area, and in the question information infrastructure, better show its ability to work through NSF to assure adult supervision of the players. A commercial Internet, cheaply priced and broadly available to every American, is one of the most important national resources we have. It is a part of this nation's economic security and it is therefore in the national interest to have the federal government safeguard and if necessary act to preserve it. If Mr. Gore sent the right kind of signals such action might not even be necessary.

ON FEBRUARY 8, TOM KALIL OF THE WHITE HOUSE ECONOMIC COUNCIL WROTE

"Gordon:

Senior management at NSF is working hard to fill the vacancies at NCRI. This is clearly important—given the key role that NSF has played in the HPCC program, research networking and the evolution of the Internet more broadly. In the mean time, those remaining at NCRI are all working long hours.

We've indicated to NSF that the White House would be happy to help them in their recruitment efforts. Last year, for example, the Vice President wrote a letter of commendation to a UC-Berkeley professor who did a rotation at ARPA under an IPA. The research community (and those in industry) should realize that these positions provide a once-in-a-lifetime opportunity to make a real contribution to the future of research networking and the nation as a whole. ♦

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| Aquila Chicago, IL Voice: (708)820-0480 BBS: (708)820-8344 | SLIP/PPP \$50 per Month \$120 per quarter \$450 per year | ENVISIONET, Inc. 7400W Arapahoe Rd Suite 202 Englewood, CO 80112 Voice: (303)770-2408 Fax: (303)770-2239 BBS: (303)770-3638 Email: info@envisionet.net | \$19.95 for 10 hours \$34.95 for 25 hours \$3.00 additional hours \$34.95 one-time startup |
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GOVERNMENT ACCESS

by Jim Warren

TO ARMS! TO ARMS! THE CONGRESS IS COMING!

"No [wo]man's liberty is safe while the legislature is in session." - anon.

It's becoming much-too-clear that this old warning remains accurate. This column summarizes the dangers in general, details many of them in particular, and then describes what each of us can do to defend ourselves, our property and our nation.

TWO IMMEDIATE DANGERS!

As of the February deadline for this column, massive threats to freedom as we know it — it is no less serious than that — are rapidly taking shape:

1. Congress and the administration are escalating their pursuit of direct, frontal assaults on the *modern* (electronic) exercise of traditional First-Amendment freedoms — electronic speech, electronic press and electronic assembly — and the modern implementation of Fourth-Amendment protections against unreasonable search and seizure.
2. By action and inaction, Congress and the administration are actively endangering personal privacy, business confidentiality, national and global network and communications security, and U.S. global competitiveness.

CENSORSHIP & SURVEILLANCE

The Fourth Amendment — void where prohibited by law.

"The right of the people to be secure in their persons, houses, papers, and effects, against unreasonable searches and seizures, shall not be violated, and no warrants shall issue, but upon probable cause, supported by oath or affirmation, and particularly describing the place to be searched, and the person or things to be seized."

A pattern is developing rapidly:

1. **Assure that personal and business information remain difficult or impossible to protect.** The current and former administrations — led by the FBI up front, and pushed by the National Security Agency, behind closed doors — have done and are continuing to do everything possible to discourage effective deployment and standardized use of convenient, by-default, uncrackable scrambling for communications and computer files in the United States. And they flat-out prohibit almost all export of U.S. software that implements world-known, globally-available believed-uncrackable public-key encryption, even though it was published in the open cryptography literature, worldwide, almost fifteen years ago, and

such software can be freely downloaded from the global computer nets, or purchased in the open market in most nations around the world, notably including purchase from entrepreneurs in former Eastern Bloc countries.

To hell with the security of innocent U.S. citizens and law-abiding U.S. businesses.

To hell with secure communications for American businesses attempting to pursue foreign markets.

To hell with global competitiveness for U.S. software publishers.

The government wants to protect its ability to snoop and peep — but only "when authorized by law" of course — and no danger to Americans and American interests is too great to inconvenience the government. Bureaucratic needs come first; citizens can have any scrapes of protection that may be left over.

2. **Radically enhance wiretap capabilities, without independent oversight.** Last year's HR 4922 was rushed through the House by irresponsible voice vote and through the Senate by unanimous consent, less than two months after its introduction — on the 20th anniversary of Richard Nixon's resignation after his failed Watergate attempt to bug his political opponents. HR 4922, now law, forces the nation's public telephone systems to implement a National Wiretap System within three years, at a cost of half-a-billion dollars to U.S. tax-payers.

Half a billion dollars when the nation has less than a thousand court-ordered wiretaps, annually.

Undetectable surveillance, of anywhere, from anywhere, at a keystroke from the comfort and convenience of the office or home of everyone who can gain access via the notoriously-insecure public phone systems.

No trivial-to-implement automated monthly reports of its utilization. No independent oversight by Congress or the judiciary. The Executive Branch agencies that will use the National Wiretap System will police themselves, thank you very much — including all of their cooperating federal, state and local agencies, agents, constables, staff and clerks.

This does not merely "keep the wiretap playing field level." Wiretaps used to be difficult, time-consuming and costly — a powerful deterrent to their casual use. The National Wiretap System will greatly expand the ease, convenience and efficiency of initiating and maintaining covert surveillance — exclusively under the control of powerful bureaucrats and

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"Computer
Chronicles" and
founding Editor of
Dr. Dobb's Journal,
among other things.

the incumbent politicians to whom they report. It can also facilitate access by mischievous and malicious crackers, foreign and domestic industrial espionage agents, and local and global political spies.

The only hope of stopping this Orwellian mandate is to stop the appropriation of the already-authorized half-billion bucks — year after year after year. (EPIC — the Electronic Privacy Information Center in Washington DC — is one of the organizations leading the spending opposition. **(202)-544-9240; info@epic.org.)**

3. Gut the Exclusionary Rule. The court's Exclusionary Rule has long prohibited use of "fruit of the poisoned tree" — evidence obtained without warrant. It was found, over and over, that such exclusion was the only way to restrain overly-eager police officers and government investigators from violating the Fourth Amendment in gathering evidence.

HR 666 — appropriately numbered with the numeric code used in ancient times to reference the Devil — is the Exclusionary Rule "Reform" Act of 1995. It permits use of evidence obtained without any of those silly old inconvenient warrants, when it was obtained by an officer who was acting in good faith.

Almost every one of the dozens of law-enforcement officers I have known over the last forty years have almost-always acted in good faith in everything they have done. That darned Constitution has always been a major impediment to their efficient, well-intended law enforcement. When this Devil's bill becomes law, the Constitution will no longer impede "good" enforcement.

Once enacted, if an officer "happens" to "stumble across" possibly-illicit images or information "evidence" of possibly crimes, while "accidentally" examining formerly-protected files on a BBS or host-computer, or "accidentally" intercepting such data while using the National Wiretap System, it and all that results from it can be used to seize property and pursue criminal prosecutions.

4. Make nasty speech and pictures felony crimes. With privacy protection difficult to use, nationwide surveillance available at a keystroke, and the Fourth Amendment out of the way, let's have some umbrella legislation that can be used by almost any prosecutor against almost anyone:

Senator Bill Exxon (D-NE) has introduced S. 314, the obscene Communications "Decency" Act of 1995 — applicable to the owners, operators, administrators and staff of BBSs, host-computers, LANs, PBXs, voice and data networks and wired and wireless communications carriers, among others.

It's states that, "Whoever — by means of a telecommunications device makes, transmits, or otherwise makes available any comment, request, suggestion, proposal, image, or other communication which is obscene, lewd, lascivious, filthy, or indecent; [or] knowingly permits any telecommunications facility under his control to be used for any purpose prohibited by this section, shall be fined not more than \$100,000 or imprisoned not more than two years, or both."

(Incidentally, there is some entertaining language that excludes its applicability to common carriers relative to "indecent communication for commercial purposes" to "persons 18 years of age or older." I.e., the big phone companies can continue their 900 and 976 services; it's just their small competitors who are criminalized.)

Every sysop knows that there are obscene, lewd, filthy and indecent—whatever the hell that means — words and images in personal email and file-transfers and USENET newsgroups and private online forums. Thus, if they permit email or file exchanges or online discussions on their BBSs or host-computers, they can be threatened with prosecution. It makes no nevermind whether the prosecution is initiated — its threat is a powerful deterrent and a potent lever for enforcers to use to intimidate a sysop into doing anything the enforcers want done.

The obscene, lewd, lascivious, filthy, or indecent language is already part of federal law - 47 U.S.C. 223 (1992). But it is limited to "telephone" communications where the spoken word evaporates the instant it is spoken, and conversations between consenting adults has little chance of use in prosecution — unless, of course, the prosecutor can get his or her hands on a wiretap recording of it.

However even current law applies this language to BBS and computer communications that are conducted by means of a "telephone." You are all criminals. Proceed directly to Jail. Do not pass Go. Do not collect \$200.

The intent of this ill-constructed statute was to impose federal criminal penalties on those who make "obscene or harassing" phone calls. But to say that the law's language is wildly "overbroad" is an understatement.

Unlike spoken telephone conversations, computer communications via "telecommunications devices and facilities" are inherently recorded automatically, and routinely archived — for days, weeks, months or permanently. And more and more prosecutors are routinely subpoenaing archive and backup tapes, seeking evidence in some specific crime.

But, with the Exclusionary Rule out of the way, just think of what prosecutors can do as they scan all of the files on all of the backup tapes of some large host-computer — legitimately acting in good faith while seeking evidence in one specific case under a proper search warrant. (In fact, they can generally use such unrelated evidence of unrelated crimes, right now, if they stumble across it in the course of an authorized search.)

5. There's lots more. S. 456 by Sen. Bradley (D-NJ), the Interstate Child Support Responsibility Act, "requires that information on every new person hired in the nation be filed in a national database, which States can regularly search for the names or Social Security numbers of parents who owe support to children in their States." A February comment by Dan Horton sarcastically notes, "Of course, no one should expect that a database that tracks every employee in the U.S. with 30-day accuracy would be of any interest to anyone else."

February email from John Walker notes that, "The current Science contains a fascinating paper [Damashkek, *Science* 267, 843 (1995)] which describes a *language independent technique for detecting similarity in passages of text*. It appears to work just as well for Japanese, for example, as for English. The author's affiliation is given as 'Department of Defense, Ft. Meade, Maryland.' Of course none of us could possibly imagine why a Nameless Secret Agency should be interested in such a thing. What's published isn't so much an algorithm as a mathematical technique for assigning documents positions in an abstract vector space, then using distances in that space to sort, categorize, and retrieve based on queries. From my reading of the article, it shouldn't be difficult to program up, and imagine how valuable something like this could be to a search engine like WAIS. Just

think of how nicely this fits with the "whenever otherwise authorized" permission of the National Wiretap System, especially when coupled with Exxon's Indecent Legislation in the absence of the Exclusionary Rule.

Thomas Mason reports that S. 390 and HR 896, the Omnibus Counterterrorism Bill, has broad bipartisan support and gives the FBI broad new powers to investigate political groups. Mason says it allows the President to declare organizations to be terrorist groups — note that Mandella's ANC and Northern Ireland's IRA and El Salvador's FMLN have all been labeled terrorist organizations at one time (wonder if Mexico's Chiapas rebels will qualify?) — criminalizes giving them humanitarian aide, authorizes secret trials for immigrants, permits the U.S. military to aid police, reverses the presumption of innocence (the accused is presumed ineligible for bail and can be detained until trial), and loosens the rules for wiretaps.

All of this can have a massive chilling effect on freedom of (electronic) speech, freedom of (net-based) press and (online) assembly.

IT'S UP TO US

Especially in the case of technology-related threats, it is up to the online community to sound the alarm and pursue redress.

Congress critters and their aides are generally naive and ignorant of the complexities and ramifications of computerized information and borderless global networking, and their ramifications for traditional civil liberties. They are easily sold a bill of goods by adroit bureaucrats seeking — in all sincerity and good faith — evermore power and more convenience for its exercise.

The general-circulation press — including, God help us!, the broadcast "press" — are normally the Fourth Estate of government, responsible for warning and educating the body politic about threats from the government. However, with too-few exceptions, most of the working press is almost as naive and ignorant as are the federal legislators.

So it falls to us to inform them and urge their diligent attention to these technology-related public-policy issues that - if ill-considered decisions are permitted - can end freedom as we know it.

Fortunately, we have the two absolute prerequisites for a free society: Timely

access to adequate information on which to base sound decisions about our national and global community, and operational mass-communications mechanisms that permit about 35-million members of the body-politic to conduct timely communications with itself.

We must use this power to help reach the remainder of the public, educate the press, and pursue Congress — to inform, to advocate, and shine the bright light of informed insight on technological policies that will impact the entire nation.

The first mechanism for escalating press and legislative attention is to escalate public attention. Tell your friends, business associates and neighbors. Spread the word online and in the "real" world. Do it now.

(FIRST, FLAME THE PRESS)

Sadly — infuriatingly — the general-circulation print press, with a few *laudable* exceptions, systematically refuses to explain the issues and policy alternatives to their general readership.

"It's too complicated." *Translation:* The editor can't figure it out or a reporter can't make it entertaining.

"Our readers wouldn't be interested." *Translation:* We'll give front-page coverage to the FBI's arrest of a computer-cracker, but we won't devote a solitary column-inch to explaining how the FBI aids crackers by opposing crime prevention via standardized, end-to-end robust encryption in global datocomm and cell-phone broadcasts.

"There's not room for it." *Translation:* After the four-paragraph daily report on O.J.'s afternoon snack, there's no room left to mention the multi-decade impacts of national information and communications policy.

"We've covered it — just look in the business section." *Of course!* Where else would the average newspaper reader look for articles about congressional [in]action and national policy that will impact everyone's daily lives for decades to come?

And as to the broadcast "press" — Computer-cracker Mitnick in handcuffs is only useful for one or two inaccurate and incomplete voice-over explanations by an ill-informed news-anchor who wants some angle that won't offend their credit-card, cell-phone and personal-computer advertisers.

In its endless preoccupation with what's "interesting" — entertaining to adults with 5th-grade reading skills — most of the Fourth Estate is totally failing its most crucial responsibility to the nation — to spread the word about the long-term ramifications of major national policy-proposals.

In fairness, however, they *did* give extensive coverage to the Exclusionary Rule "Reform" Act and its efforts to demolish what remains of the 4th Amendment. But they did so in what was for the most part, pallid, passionless presentations that made nary a mention of even one of the numerous abuses of police power — historical and current — that led to the 4th Amendment and the Exclusionary Rule in the first place.

Okay, now that that's out of our system.

HELP THE PRESS

It's not that the press doesn't care — it's that most editors and reporters don't understand the ramifications of computers and networks, don't have the time or resources to learn, and doesn't realize its universal public importance. Help them:

It's said that all politics is local. Contact your local newspaper(s) and local teevier news desk.

Arrange to meet with the editor-in-chief, editorial-page editor, political reporter(s), political columnist(s) and the technology reporters who are usually imprisoned in the business pages. Contact the evening news shows' producers and assistant producers — and broadcast reporters if you can.

Write to them, and write letters to the editor for publication. (Understand that they don't have any time and will be wondering about your motives in contacting them.) Vigilantly limit letters to one page, but include enclosures if needed.

Approach issues in terms of information and communications — which is their turf — rather than computers and networks. Especially emphasize FOI issues — freedom of information, and agency's attempts to suppress it. Hot stuff for journalists.

Urge that these public-policy issues be covered in the news and features sections, rather than relegating all technology-related stories to the business pages in lockstep fashion.

Urge the technology reporter(s) to give more attention to the public-policy issues, rather than monastic preoccupation with gadget stories and money reports. Most of 'em would love to weasel some stories into the general-news pages.

If it bleeds, it leads. Reporters do not write about theoretical generalizations and political philosophy; they write about people. Emphasize the human aspects and community impacts — on everyone — of technology-related public-policy decisions. Where possible, cite one or several actual cases that involve local people, that illustrate your points — preferably without going to extremes for the examples.

Every time there's a policy-related technology story, immediately fax a letter to the editor that pitches a policy point that needs to be publicized, springboarding off of the story. E.g., every time there's a story about billion-dollar cell-phone fraud, or computer crackers, or phone phraesques, use it to hammer the point that our government is leaving us unnecessarily defenseless to these losses and intrusions.

AND OH YES, CONGRESS !

Essentially use the same tactics on Congress. Don't go for your elected representative, unless you are an "important person" or know them personally or are going in representing a group — they're honestly too busy for the 500,000 or so mere humans that they represent. Go for their aides — these are the folks who *do* have access to your representatives, and *do* have time to talk with you. And much of the time, they are the ones who actually develop policy and legislation anyway, often guided by their legislator. Meet with them in person, whenever possible.

In spite of my vitriolic, sarcastic cynicism and paranoia, assume that *almost all* cops, bureaucrats, public officials, elected representatives, congressional staffers, reporters and editors ARE honest; ARE trying to do a good job; DO work hard; and, ARE trying to make things better. In all the experience I have had, I have found this true — though one sometimes gets to quibble over what's "better."

Either we do it — or we've had it. Let's get on with it. ♦

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EDUCATION LINK

by Rea Andrew Redd

VIRTUAL ONLINE UNIVERSITY: GET YOUR BACHELOR'S DEGREE ELECTRONICALLY

Here's to you Old VOU, may we not forget, We're 'lectronic alumnae Hey! College on the Net!

I'm not a songwriter, nor a lyricist. But I have worked at poetry and what you have just read is an early attempt at an alma mater that you could sing at your electronic commencement.

Rea Andrew Redd lives and works in southwestern Pennsylvania where he manages a high school library, teaches European history and Scholastic Achievement Test preparation. On occasion, he reenacts American Civil War battles with the Ninth Pennsylvania Reserves, an historic, military impression unit. E-mail Rea at: redd@genesis.duq.edu

THE VOU - VIRTUAL ONLINE UNIVERSITY

Many universities offer courses online but could an entire college degree be completed through a computer and modem? Soon the answer may be yes! Enrolled students making connections to the worldwide Internet electronic network would be able to gain an entire undergraduate degree. Are you intrigued? Why don't you step into the office of Robert Donnelly, president and co-founder of VOU?

Donnelly@coyote.csusm.edu is his e-mail address; and he is a specialist in information technology and multimedia at Mira Costa College, California. His colleagues are William Painter, Jr., executive director of VOU and history professor at the University of Central Arkansas, Guy Wilson, VOU's vice-president of academic affairs and Tina J. Pitt, VOU's vice-president of student affairs, doctoral candidate in adult education at North Carolina State University and an instructor at Wake Technical Community College.

Prospective students first questions include: What's the tuition? About \$400 per course, not credit hour. And the class size? Probably about eight and possibly larger as the right software comes along to facilitate several small group discussions, which are broken out of a large class group and then later in the session re-gathered. Course offerings? Initially, curriculum will be heavy in the social sciences, mathematics, online adult instructional strategies, composition and literature. Somewhat later, within the next two years the natural sciences will be added. And faculty? Purdue, Massachusetts Institute of Technology, other well-known American universities, Canadian and Australian instructors are being added to the faculty, which may grow as large as 3,500 in size.

What don't you get at VOU? Scholarships for athletics, parking permits, student activities' fees, cafeteria food and other add-ons found at universities. Everyone I suspect will be a GDI, not a fraternity brother nor a sorority sister. But with who will you electronically rub elbows? They might not be the average college student found on the average college campus.

Both Donnelly and Painter are looking for individuals who are "learning disenfranchised," those people who have little money, work full-time, live in remote regions, physically handicapped, non-traditional learners, incarcerated or are readers of *Boardwatch Magazine*.

Students are to be VOU's highest priority; teaching students how to think is VOU's first academic goal. A liberal arts curriculum emphasizing numeracy, literacy and critical thinking taught through readings, research and exams is already in place. To accomplish this some solutions are going to be created since we all know in cyberspace there are no problems, only solutions.

The time lag when students type in comments and have to wait for responses and scheduling problems because of different time zones have to be overcome. Instructors who are used to lecturing must now teach by asking questions and listening. Hey, by the way, isn't that the way Socrates did it?

Now for the prestige factor. How will all this look on your resume? Will you fall into that category of Americans who have "certificates of achievement" through mail/home correspondence courses? It's much like the three most important factors in selling real estate. 1) Location 2) Location 3) Location.

1) Accreditation 2) Accreditation 3) Accreditation. Organizers of VOU hope it will be the first of its kind to be recognized by a regional higher education accrediting agency. Before that can happen, VOU must establish an academic track record by having instructors demonstrate that they can teach online, must solve the library and laboratory requirements and must prove financial solvency. Accrediting agencies do not yet have the tools for evaluating a completely online university. Just recently these agencies have completed standards for evaluating online courses offered by established real-time universities. Both VOU and the accreditation agencies are going to have to provide solutions and work on these problems hand-in-hand.

The question, which will be answered in the future, is "Does VOU exist only because it can technologically be done, or does VOU exist because it really teaches thinking skills to those who are learning disenfranchised?" We'll be following this one rather closely.

And of course, are we on the verge of VOHS? Could a virtual online high school be in business before the new millennium? This spring, Newt Gingrich called high school "subsidized dating." He would like to see

students be allowed to complete high school faster so as to reduce taxpayers burdens. Also, Gingrich wants students to have access to "virtual reality" technology to increase the speed in which teens accomplish their accelerated learning. He hopes to see uneducated adults study alongside school children, and jobless adults take courses in exchange for their unemployment checks. I would hate to expand the size of government, but do we need a U. S. Department of Virtual Education? E-mail Newt Gingrich at georgia6@hr.house.gov.

LESSON PLANS FOR LANGUAGE ARTS IN SPANISH

Gopher to: [copernicus.bbn.com](gopher://copernicus.bbn.com) to find Spanish lesson plans for language arts teachers. Look in the National School Network Testbed, the Community of Explorers Lesson Plans and the UCSD Internet Lesson Plans. Also several hundred K-12 lesson plans in biology, earth science, math, physical science, chemistry, physics, English and Spanish are at the same site.

CLASSROOM CONNECT: TURN YOUR SCHOOL INTO AN INTERNET SITE AND KEEP THE STUDENTS IN LINE

In a late 1994 issue of *Classroom Connect*, a monthly guide to using the Internet in K-12 classrooms, three companies which offer low-cost, prefigured systems that make it easier to set up an Internet-connected computer system are evaluated. Apple Computer Educational Division and SoftArc, Inc., IBM EduQuest and Bolt, Beranek and Newman's (BBN) Internet Server are briefly described and evaluated. E-mail Chris Noonan Strum, the editor, at cstrum@wentworth.com and ask for a fax of page 15, the Technology Feature of the Sample Issue. Also, *Classroom Connect* has a monthly feature titled "New User Basics"; a winter 1995 column presented "Keeping students in line, online."

To protect schools, administrators, teachers and students and to reassure parents, an Acceptable Use Policy (AUP) is necessary. A written agreement signed by the student, their parents and their teacher outlines the terms and conditions of Internet use. Two gopher locations of AUP information, three mailing lists and three Usenet newsgroups are provided. A sidebar titled, "How our Missouri school created an AUP" appears in the feature and presents a fine, to-the-point discussion of the rationales and the daily practice of how an AUP works in the classroom. Ask Chris Noonan Strum for a fax of pages 12 and 14 of the December 1994/January 1995 issue of *Classroom Connect*. Better yet, e-mail Amy Young at connect@wentworth.com to subscribe. Ask for the back issues, including the Premier Issue, the Sample Issue and the December 1994/January 1995 Issue as part of your first subscription.

Also, Mitchell Waite of the Waite Press Group, Corte Madera, California, has called it to our attention that the previous *Classroom Connect* e-mail address is bouncing back queries; try the above address. My recent e-mail to them was received. Thanks Mitchell!

AND FROM OUT OF THE E-MAIL BAG

DATABASES FOR EDUCATORS:

Carrie Gardner (carrie@icarus.lis.pitt.edu), doctoral candidate in Information Science at the University of Pittsburgh, recommends the following telnet sites for educators.

Dartmouth Library, Shakespeare Databases

| | |
|---|-----------------------------|
| Weather | (madiab.sprl.umich.edu) |
| Science and Technology Information Service | (stis.nsf.gov/login/public) |
| Library of Congress, Federal Legislation | (locis.loc.gov) |
| Agriculture Information | (psopen.psu.edu login: PA) |
| Economic Information | (eb.stat.usa.gov) |
| Stock Market Information | (a2i.rahu.net) |
| Stock market Simulation | (mamon.media.mit.edu) |
| Scholarships, Minority Quotations, Famous Crosswords, Education | (fedix.fie.com) |
| Earthquake Information | (astro.temple.edu) |
| Geography, Urban Geography, Land Use (U.S.) | (next7.cas.muohio.edu) |
| Air Pollution | (geophys.washington.edu) |
| Federal, Databases | (login/password: quake) |
| | (martini.eecs.umich.edu) |
| | (glis.cis.usgs.gov) |
| | (login: guest) |
| | (thnbs.rtpnc.epa.gov) |
| | (fedworld.doc.gov) |
| | tab to command field, |
| | enter folio, enter |
| | select, enter item #) |
| Federal, Food and Drug Administration | (fdabbs.fda.gov login: bbs) |
| History Database | (ukanaix.cc.umn.edu) |
| Health Information | (login:history) |
| Space Studies | (selway.utm.edu) |
| NASA News | (login: health) |
| | (cas.jsc.nasa.gov) |
| | (password: online) |
| | (spacealink.msfc.nasa.gov) |

SOCIAL SCIENCES DATABASE/ WELFARE REFORM PROPOSAL:

Barbara R. Bergmann (bberg@american.edu or telephone (202) 537-3036 or fax (202)537-3036, indicate bergmann) has a welfare reform proposal that was released by the Economists' Policy Group for Women's Issues as an answer to the Republican proposal advanced in the Contract with America. The two page document is a good basis for class discussion. Thanks Barbara!

PHYSICS DATABASE:

Lowell Herr (herr@catseq.catlin.edu) announces a new physics BBS the focus of which is to provide labs, tests and other teaching material for physics teachers, particularly those who have participated in the computer interfacing workshop Project Physlab. If you are interested telnet to 192.147.239.87 or use the domain name, physlab.catlin.edu The domain name does not work at all sites as it is new, having been initiated in November 1994. You may also wish to address some fat mail to Lowell at **Project PHYSLab, The Catlin Gabel School, Portland, OR 97225**

REQUEST FOR BIBLIOGRAPHY AND ARTICLES:

Harold Jansen, (hjansen@gnu.srv.ulaberta.ca), teaches a course on Interest Groups of the Western Democracies at the University of Alberta, Canada and wants to include a section on religious interest groups in the course. What he needs are some good readings to assign students. Does anyone know of bibliographic articles, overviews and case studies? His main interest is Canada, but the course will deal with politics in the Western Hemisphere. Thanks Lowell!

REQUEST FOR A CIVIL WAR DATABASE:

Wes Tilson (westilson@delphi.com) teaches English to eighth graders and reenacts the American Civil War as a U.S. Navy seaman. Wes is looking for a list server, WWW or usenet group for reenactors and educators with an interest in the Civil War. Bob Underdown, sysop and Civil War reenactor, has a BBS titled The Blue and the Gray (501)444-8420. Bob reenacts with the 37th Illinois Infantry, Company A. Having both graphic and text files on his BBS keeps the Blue and Gray sysop busy; if you wish to be added call the BBS or write The Blue and Gray BBS, attn: Bob Underdown, P.O. Box 2947, Fayetteville, AR 72702. Also, you may e-mail Kim Scott: kscott@saturn.vark.edu. *Boardwatch Magazine* covered this BBS in the June 1994 issue. One of the most extensive listings of Civil War reenactment groups and activities found in *The Civil War News*. Telephone (802)889-3500 or fax (802)889-5627.

If you subscribe at \$24 a year, then you receive three free classified ads. I've just renewed and I think I'll run a "looking for BBSs" advertisement. Correspondence should be addressed to Route 1, Box 36, Tunbridge, VT 05077. ♦

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| Caller ID security | Yes | No | Extra | Extra | No |
| Nested security logic | Yes | No | No | No | No |
| Multichannel chat | Yes | Extra | Yes | Yes | Yes |
| Private user chat | Yes | No | Extra | Yes | Yes |
| Offline reader support | Yes | Yes | Extra | Yes | Extra |
| QWK networking | Yes | Yes | Extra | No | Yes |
| FidoNet import/export | Yes | Yes | Yes | Yes | Yes |
| PostLink (RIME) support | Yes | Extra | Yes | Extra | No |
| Includes RIPscript menus | Yes | Yes | No | Yes | No |
| Novell/DOS LAN support | Yes | Yes | Yes | Yes | No |
| Enhanced CD-ROM support | Yes | Yes | Yes | No | No |
| Incoming FAX support | Yes | No | No | No | No |
| Chat between doors | Yes | No | No | Yes | No |
| Bidirectional file transfers | Yes | Yes | Yes | No | No |
| DOS door support | 11 types | 2 types | 2 types | No | No |
| FILE ID.DIZ support | Yes | Extra | Yes | Yes | No |
| Offline NetMail | Yes | Yes | Extra | No | Yes |
| Offline/Remote file requests | Yes | No | No | No | No |
| Real-time configuration | Yes | No | Yes | No | No |

Features and prices compiled from vendor supplied information. Prices are subject to change without notification. Wildcat!IM, PCBoard/M, MajorBBS, TBBS, QWK, FidoNet, PostLink, RIME, RIPscript, Novell, and DOS are trademarks or their respective companies. Third party utilities may be required for some message network technologies. *For 8 nodes Wildcat!IM requires a 250 node license, PCBoard/M requires a 10 node license, TBBS requires a 16 node license.

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LEGALLY ONLINE

OWN A PIECE OF THE WEB . . .

by Lance Rose

The recent wild growth of the Internet has been fueled by excitement over the World Wide Web, which gives us an easy to use, text-and-graphics window on the Internet. Up to now, the Internet

was the province of computer geeks and "early adopters" of new technologies. However, the new Windows-based Web browsers make getting on the Internet far easier than learning DOS ever was. The most popular browsing software includes the free-standing Mosaic, and the integrated browsing capabilities newly available on Prodigy.

The Web is continuously evolving. Today it is an electronic publishing medium available for free to the general public. People and companies publish Web "pages," filling the computer screens of Internet users with attractive graphics and text. These pages are linked to each other by their developers, forming a webwork of formatted information spread across the Internet. Users go from one linked Web page to another simply by clicking mouse on a highlighted word or graphic element. A page at one site can be linked to other pages at the same site, and to pages at many other sites around the world. Web users can go "Web surfing" for hours down trails of their own choosing through the intricate tangle of Web sites, already estimated to number over thirty or forty thousand worldwide.

The Web was colonized four or five years ago by scientists who wanted a more attractive window on the Internet than the usual dry plain text. But within a couple of years, the power of their new online publishing tools became known to the rest of the world (largely through the popularity of the Mosaic browser), and mainstream businesses and organizations have been rapidly setting up their own Web sites ever since. Many use the Web in its original form as a publishing medium for online libraries and reference sources, teaching areas, magazines, advertising, public relations, etc. The White House has been up on the Web for several months already, treating countless Net-surfers to pictures of Bill's family and an online tour of the White House.

As commercialization of the Internet increases, businesses are adding new functions to Web pages, such as gathering information from users who view the pages, and setting up online stores to sell goods and services to Web users. So far, these new functions are still contained within the traditional structure of the Web page. For instance, to order something from an online store, a user will fill out a page presented graphically as a form with blanks. Whatever is entered in the blanks is then passed in the background to the business running that Web site,

enabling it to process that order and obtain the payment authorized by the user.

Virtually anyone with access to the Internet can now develop and maintain a Web site for a modest investment. Consulting businesses are springing up everywhere offering to design Web sites for all comers, and also to maintain those sites located on industrial strength computers that are attached full time to the Internet. The tools for creating Web pages are based on a fairly straightforward formatting language named HTML (for Hypertext Markup Language). They are becoming available from many software publishers, even including versions offered by Microsoft and Novell as part of Word for Windows and WordPerfect, respectively. The Web is becoming a widespread publishing medium for everyone, far exceeding the printing press as a means for everyone to publish their news and views in the public arena.

With all this linking, development and investment in the Web, questions of property and license rights are starting to appear. Broadly speaking, two kinds of property questions are starting to arise in connection with Web publishing: (1) if I publish a Web page or site, what are my ownership rights in its contents, design, layout and links? (2) What information and materials can I put in my Web page or site without violating the rights of others?

WHAT THE WEB PUBLISHER OWNS

Let's look first at the Web publisher's property rights in his own site and pages. To start, we can observe that Web pages often resemble the pages of print magazines. Indeed, many Web sites function as "magic magazines," where the user can either read the pages in sequence, or jump around to other pages at the same site or at other sites instantly.

The Web publisher's rights in magazine-like Web pages and sites will be very similar to the print magazine publisher's rights in the printed page. The publisher will own the copyrights in all original text and images on the page (or they will be owned by the individual authors who license them to the publisher, as the case may be). In addition, the publisher may have a copyright in the text and graphics as laid out on the page, depending on the degree of originality in page design and use of original graphic elements. The publisher will also have a collective work copyright in the Web site as a whole, consisting of the specific collection of separately copyrighted texts, images and other works making up the contents of that site. Finally, where a Web site contains much information that is not itself copyrighted, such as statistics gathered together from various public sources, the publisher may have a compilation copy-

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right, protecting the original manner in which he or she gathers together, arranges and presents that information to users at the site.

The magazine model for Web-based property works well as far as it goes. However, on the Web, as in the online world generally, no one model will provide all the answers. For instance, the new functions available for Web servers (the computer programs used to run a Web site) and browsers can make Web pages operate like computer program screens, also known as "interfaces." The user enters data at designated points on a Web page, and the page will process the data. It can present the result to the user, or perform some background function like processing a sales order or sending along a user inquiry to human customer support personnel.

Where Web pages act like computer program interfaces, it makes sense to look for guidance to the copyright concepts developed for the "look and feel" of computer software. While this is not an entirely settled legal area, litigation over the past ten years has set certain basic parameters for look and feel ownership that would seem to apply directly to program-like Web pages. The page developer cannot own any part of the page that he or she did not originate, such as the use of dialog boxes, dropdown or pop up menus or title bars. Even for functional page elements the developer does originate, he or she can only own their own way of expressing that element. For instance, whoever first used a garbage can image for the file disposal function can keep others from copying that image exactly, but can't keep them from using other, independently designed garbage can images for their own file disposal icons.

Outside such limitations, the page developer can own the original pictorial elements on the page, and possibly the way the various elements are arranged on the page. Logical structures contained in the page, such as sets of menu choices presented to users, may also be protectable under the approach used in some software look and feel cases, though the Copyright Office is not always very receptive to such claims. Don't be surprised if we start seeing "look and feel" Web page cases in the courts in the next few years, bringing this intricate set of copyright questions out of their software ghetto and into the wider world of mass publishing.

Another cutting edge question for Web developers is whether they can own the links they set up at their Web sites,

pointing users to other Web sites all over the Internet (each link is actually an address for the remote linked Web site, which is embedded in the local Web page and moves the user to the remote address when he or she activates the link). In considering this question, it may help to visualize a Web site as if it is a plant "rooted" in the Web, each tendril of root being an individual link to another site. Each such link is merely an address on the Web, owned by no one, but a Web site can embody a great number of links, which together can form an original and unique structure. This structure would seemingly deserve protection against copying by other Web publishers under copyright law. We will not know for sure, though, until there is some legislation or litigation on the subject.

Web owners who want to claim copyrights in their sites will also likely contend with various legal challenges. One is the "blank form" exception to copyright protection, which holds that you cannot gain copyright ownership of a printed form unless it contains a fair amount of information on the face of the form. A form consisting of a set of tersely labeled blanks or boxes will often be refused copyright protection, while a form containing sentences of instruction and explanation will usually qualify for copyright. Certain Web pages look a lot like traditional printed forms. To the extent they do, those who want to copy those pages with impunity will assert they are just a new electronic version of blank printed forms, and can not be owned under copyright law.

Another challenge may arise from the way that Web pages are generated for viewing. When you view a typical Web page with a browser such as Mosaic, you may see an attractive, well-designed graphical presentation that would not be out of place in a slick magazine. That presentation does not reside entirely on the Web site, however. In fact, it is the result of a set of instructions and materials created by the Web publisher, which interact with the browser software to construct the Web pages displayed by the browser. Users can alter the way that their own browsers present Web pages, with the result that the same Web page can be seen in a variety of different ways by the same user, and by different users.

If users can widely alter the way they see the same Web page, then what precisely does the Web publisher own under copyright? If a given Web user sets his or her browser in a manner not imagined by the Web publisher, how can that publisher possibly hope to

claim ownership of that exact presentation? The answer is, they can't. But there are certain fundamental things the publisher can own. One is the formatted set of texts, instructions and images created by the publisher to serve as the basis for all the Web pages that different Net users may see at his or her site. This form of ownership can be very useful for publishers who find that others have simply copied their pages wholesale to other sites. The publisher can also own any particular browser presentations used by the publisher as the basis for designing the page. For instance, if a Web publisher designs a page to have a specific appearance to the Netscape Mosaic browser using the unaltered, "factory-default" settings, then the publisher can certainly claim ownership of that presentation in all its particulars. Finally, even if the publisher cannot entirely own every presentation of its own Web pages to all possible browsers, it can keep others from republishing those presentations as infringing derivative works.

There is another new trend starting, to mixed reviews from Net regulars. Some Web publishers are trying to discourage other Web publishers from linking to their pages, unless they agree to a license covering the link. This flies in the face of the sharing environment we have seen in the Web up to now, but it presages the Web to come, where many Web pages will charge users for the privilege of browsing them. We will start to see a split between the public Web, free to all comers, and private parts of the Web, where users pay either a standard fee or per-link charges to browse within private areas. When this happens, the notion of a Web publisher "owning" his or her page will move from the exotic to the mundane.

USING OTHERS' MATERIALS TO CREATE A WEB PAGE

What materials can legally be used by the Web publisher in creating its own site? Part of the answer is easy. All materials owned by the Publisher, including all original materials created by the publisher (or created by others for the publisher as a "work made for hire") can be used as the publisher pleases to create Web pages and sites. The publisher can also use any information in the public domain, such as factual materials and older works no longer covered by copyright. Be careful here, though. Sometimes it is not clear exactly what is in the public domain. Lack of a copyright notice often has no bearing on the question, since all works created in the U.S. after 1989 are fully

copyrighted regardless of whether they bear a notice.

Publishers who want to incorporate materials owned by others into their Web sites face a situation similar to that faced by developers of multimedia CD-ROMs. A Web site or page may incorporate small snippets from many different preexisting works in a variety of media, such as texts, graphics, photos, paintings, and even music, sounds and animations. Each of these prior works may be owned by a different person or company, making the project of obtaining rights potentially very difficult. The publisher must track down the owner or licensing agent for each work, gain permission for the planned use of that work at the publisher's Web site, and try to achieve a reasonable price for that use. Where a site incorporates a large number of prior works, such a price may be impossible to achieve. The publisher has to divide up the money available for rights licensing among all works used at the site, but this may result in a per-license price that would strike the owners of the works used as insultingly small.

When confronted by such problems, the strategy of using as much original or public domain material as possible becomes much more attractive to publishers, and may in fact often be the best way to quickly produce Web sites and pages. Publishers may also be tempted to avoid the frustration of rights licensing by trying to use others' works under the "fair use" doctrine of copyright law. This doctrine permits limited copying of others' works, even though it may be infringing. Fair use is a very narrow exception to copyright protection, although those not very familiar with copyright law often treat it as carte blanche to take whatever they want from others' works. Common examples of fair use include using short quotes from books to illustrate a book reviewer's comments, and making small numbers of copies of articles for purposes of teaching a single class. Similarly limited uses, barely affecting the copyright owners' markets for their works, may also qualify under the fair use provisions of the copyright act, though in each case a careful legal analysis of the law's requirements is necessary. Here are some examples of what will likely not be "fair use" at a Web site: including entire articles taken from newspapers, under the false theory that relaying news stories is automatically "fair use;" using pictures found online as illustrations for a Web page, where permission to use such pictures is not clearly given; using a substantial part of someone else's

image as part of your own image, perhaps a collage, without their permission.

Moving away from multimedia-type questions, there is also the question of the legality of linking to other Web sites. The standard kind of link, which sends users to other pages when they activate the link, raises no problems as long as the destination is itself a public Web page or site. The essence of the public Web is linked pages, so everyone who runs a public Web site is implicitly agreeing to let others link to that site. As we mentioned above, though, we are also just starting to see the rise of private Web areas, where linking itself will require permission from the linked site.

There is another kind of linking, which Web developers are just beginning to explore. Instead of sending the user to another page, a given Web site can instruct the user's browser software to obtain a file or image from another publisher's Web site, and then construct a page for the user to view while still residing at the first Web site. The result will be Web sites providing users with composite pages constructed from several other sites' materials. This could lead to serious problems. For instance, someone who runs an animation fan's Web site may cause browsers visiting that site to retrieve animation images from all over the Web, and place them in pages constructed by the publisher of that site. The user may end up looking at a page containing, say, images of Mickey Mouse, Huckleberry Hound and Bugs Bunny, all obtained without authority of the copyright owners. If the corporate owners of any of these images object to their inclusion in the animation fan's Web pages, they will be sure to raise legal claims.

Will those claims stick? There is a good chance they will. Running a Web site that creates composite pages containing the works of others on the Web can readily be seen as creating a "copy" or "derivative work" under copyright law, which is infringing unless authorized by the owner. Some Web publishers object to this analysis. They insist they do not actually copy the images or texts of others, but only instruct the browser software on the user's machine to download and assemble those images and texts into a composite page for the user to view. This objection may, indeed, relieve Web publishers from direct responsibility for copyright infringement. However, copyright law includes a doctrine known as "contributory infringement," which can make

those who assist in an infringement fully as liable as those who directly infringe, those who assist in performing infringement, even if they do not directly perform infringement themselves, which would have a very good chance of applying to Web publishers in this scenario.

Finally, it has recently come to light that some online services may be copying certain popular Web sites to their own locations. This enables users who want to browse those sites to do so on the services' local computer systems, instead of burdening their Internet gateways with excess traffic. Apparently, this is an attractive solution to the problem of managing computer resources available for Web activities. However, unless permission is obtained from the owners of the copied Web sites, such wholesale copying would seem to be a ready copyright infringement, and possibly a trademark infringement as well. It is not simply a harmless way of actually making that site available to others. The owner of the original Web site may not be able to update the copied version of the site to correct mistakes, add fresh information, or restructure the entire site as he or she wishes. Copying entire Web sites without permission takes away the Web publisher's control over his or her own presentation, and is neither reasonable, nor likely to be endorsed under the law.

In closing, let's remember that the Web is a fluidly evolving medium. It may be that in two years' time, everything we know today about the Web will have become wrong. This principle will apply as much to asset creation as any other part of the Web experience. Thus, we should not expect our "property rights" on the Web to last forever, especially those rights that seem glued to the Web fads of the moment. At the same time, the long-term property rights merely finding a new expression on the Web — in texts, graphic arts, video loops, music, and trademark — will likely be strengthened from their stay on the Web. Don't expect the Web ever to stabilize to the point where you can file your deed of title to virtual property in the online property office. You've got to stay on your toes, and be prepared to recognize, exploit, maximize and drop new Web property opportunities as they appear, and in many cases, subsequently disappear.♦



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MACINTOSH NEWS

by Bill Gram-Reefer

INVOCATION

January's MacWorld Expo — despite the Orwellian prognostications of some uncritical staff writers — was not just a show about games and graphics, but included a fair amount of NEW Mac-based communications software products. You know, I didn't call Dataquest to verify, so please understand that this is just an unreliable report of what I think I actually saw.

Bill Gram-Reefer, based in Concord, CA, is president of WORLDVIEW, specializing in connectivity and communications. Bill has been writing about Macintosh computers since 1984. E-mail Bill at: reefer@netcom.com

EXPO ROUNDUP

First, Apple's own Pavilion was jammed with a variety of third-party software vendors showing new hacks. Two prominently featured guests were OpenSoft and BIAP. OpenSoft demonstrated its recently-released Internet PowerClient software module, PowerFTP, that provides IP file transfer fully integrated with Apple's PowerShare AOCE environment. PowerFTP lets you click on an icon on your screen to access files on a remote computer. PowerClient will retail at \$65. And as PowerClient is an extensible base program that will support additional functionality, OpenSoft plans to bring additional modules to market to support mail, where you simply drag the recipient's icon into your word processing document and your message is ready to go, working with or without PowerShare. OpenSoft; (800) 996-OPEN voice; sales_dept@opensoft.com Internet; OpenSoft AOL.

BIAP also was showing a new version of MACHHTTP version 2.0. The first WWW server developed specifically for the Macintosh, MACHHTTP, provides an easy-to-use environment that enables any Macintosh computer equipped with MacTCP to act as a full-blown document server on the World Wide Web. MACHHTTP can serve Hypertext Markup Language (HTML) documents, images (GIF, JPEG, PICT), QuickTime movies and any binary data files created by Mac applications, or any live data from any program that works with AppleScript, including AppleSearch and third-party tools such as FileMaker Pro, Butler, Excel and 4th Dimension. MACHHTTP ships with AppleScript and is already preconfigured for easy set-up. According to BIAP sources, the average time to get a new WWW server online using MACHHTTP is less than five minutes. All WWW documents and directories created for MACHHTTP are fully compatible with standard UNIX WWW formats, allowing MACHHTTP to operate as a prototyping and development environment for enterprise-wide systems.

MACHHTTP requires System 7 or later. Claims are, MACHHTTP running on a PowerPC Macintosh will outperform servers running on many common UNIX platforms. Pricing ranges from \$50 for non-IP internal use to \$100 (plus annual license fee) for public, for-profit use. Educational users are entitled to a 50 per cent discount. Site licenses are available for quantities over 10 at \$500, \$800 and \$1,000 intervals. A fully functional evaluation copy of MACHHTTP with licensing and ordering information can be obtained via the WWW from <http://www.biap.com> or at many Mac archive sites on the net. For more information contact info@biap.com Internet e-mail.

Also in the Pavilion, Wall Data was showing new additions to its SNA*ps product family providing shared folders for an AS/400 and AppleWorkGroup Server 95 running AUX. Meanwhile, in addition to its previous announcement concerning the availability of AppleTalk services for Windows PCs, Apple promoted the new ability of its AppleSearch engine to work with both WAIS, WWW and Gopher servers. According to Apple, AppleSearch's powerful query engine provides quick access to content especially in complicated Gophers with many documents and layers. Operating from a remote LAN, AppleSearch now permits up to 100 of about 500 WAIS servers to appear as searchable sources, along with locally stored files on local and wide area networks such as company databases and archives. AppleSearch's approach to WAIS servers means that users can schedule searches during off peak hour, and that users are not confronted with a two step process usually involving a long second search. One of the more important recent Internet developments, AppleSearch's complimentary style of searching and relevancy ranking, reporters and indexers now provides cross-platform support and ease-of-use for non-Mac Internet browsers as well.

The show floor wasn't all fun and games either as InterCon demonstrated its new TCP/Connect II now sporting an integrated WWW browser for Macintosh users. TCP/Connect II supports JPEG, GIF, Sound and QuickTime to automatically decode and display information without the help of external applications; (707) 709-5500 voice; info@intercon.com Internet. And Software Ventures was showing its new Snatcher, a graphical-based FTP file transfer program that provides the ease of the Finder when searching FTP servers. Using Snatcher, you can manually log on to a remote server, or using AppleScript create your scripts or use a variety of scripts that come on the disk. Additionally, you can

assign aliases so you can have the icon of a server on your Mac allowing you to just double click on the icon, which will launch Snatcher, log you on to the server then deliver you directly to the folder you selected. Because Snatcher translates the text code of most FTP servers into Finder-like folder and document icons, it's easy to move folders around, change view and sort order, providing drag and drop simplicity — just drag the file you want to download to your own desktop, folder or drive. Snatcher also includes an (editable) wide assortment of suffixes preconfigured to display the appropriate icon for a variety of Macintosh file types. A breeze to install, Snatcher requires System 7.5 or higher, or System 7 Pro with Mac TCP, Drag and Drop 1.1, and AppleScript 1.1, or System 7.1 with Finder 7.1.3 or later. Of course, you need a TCP/IP network connection. Software Ventures can be reached at **(510) 644-3232** voice; or **snatcher@svcdudes.com** Internet.

Nothing new besides games and graphics at MacWorld Expo? So what does Microsoft know or really care to say about new products for the Mac, anyways? And doesn't it make perfect sense to go straight to WordPerfect's PR flack to get the hottest scoop 'cause everyone knows word processing, not WWW, is the killer "app" these days, right? I mean we're talking on-the-bounce, look under every stone journalism, don't you think? But hey, make the easy calls then just turn up the voltage of the neon pabulum as bright as Vegas so your weekly readership can get a woody, thinking they got timely insight thanks to IDG. But just don't even think about calling StarNine Technologies, 'cause all they'd tell you about is E-mail-On-Demand (eMOD). Announced at the Expo, eMOD is an automated e-mail processor for Macintosh that allows users to create and maintain automated e-mail response systems and Listserver-style mailing lists using the Internet or Mac-based e-mail systems. The automated e-mail response system is sort of like an e-mail version of fax-on-demand, where instead of pressing #1 on the phone, you enter "info" and send it to a MailBot who has been configured to auto-reply to a variety of commands. Marketers can use eMOD to speed the response of e-mail inquiries by creating an information vending machine available via Internet rather than by quarters. Additionally, using AppleScript,

eMOD can act as an e-mail front-end to information stored in other scriptable applications such as FileMaker Pro. In such a scenario, if the subject of the message is "latest data," upon receipt, eMOD would launch FileMaker Pro, perform the query and reply to the sender with the found record set. To ship in first quarter '95, eMOD will come in two configurations, a LAN-mail version for QuickMail, Microsoft Mail, AppleTalk and POP3; and an SMTP host version. For more info call **(510) 649-4949** voice, or **info@starnine.com** Internet.

While SoftArc and ResNova were absent from the Expo, Spider Island Software showed TeleFinder BBS (TFBBS) version 3.5. O.K., admittedly, this significant upgrade was previously announced, so I guess actually demonstrating working code just doesn't count for much when compared to the thousands of stories you can dream up whenever the Redmond Mafia announces a product more than a light-year from reality — you actually get paid to do these things in the heat-the-PC-drum trade press. Anyhow, the feature that will see the most day-to-day use on most TFBBSs is MailServer, a new program in the TeleFinder suite of applications. MailServer enables you to link your e-mail with other TeleFinder BBSs and the Internet. MailServer redefines the way TeleFinder handles mail internally, and creates a standard interface through which third party programmers connect to TeleFinder's mail system. MailServer provides support for multiple names in the "To" field of a message so you can send a message to a group of people at the same time. You can even mix addresses so that some of the names are local users, others may be on the Internet, and the rest on other TeleFinder BBSs.

MailServer is also the cornerstone of the TeleFinder Network (TFNET). TFNET is an association of TeleFinder bulletin boards that supports the distribution of mail and news between various TeleFinder BBSs. Within TFNET there will be several sites offering e-mail routing to the Internet. First among these is Spider Island's own BBS, and they'll be offering sysops a basic level of e-mail service free of charge for the first six months after registering their software. TFNET provides seamless e-mail exchange with other TeleFinder BBSs, FidoNet (through support of MacKernal) and

the Internet. A UNIX "Internet Domain Name Server" operated by Spider Island Software lets the rest of the Internet know how to get mail from their system to your BBS. Spider Island will introduce its own UUCP gateway in 1Q for **\$200**. UUCP is attractive to many sysops because it can be run in batch, very similar to Fidonet delivery. UUCP also offers lower monthly expenses than does a direct Internet connection.

The most visible (and audible) new feature of TFBBS 3.5 is its new customization capability. It is now possible to add graphics and sound to your TeleFinder BBS layout, and use custom icons down to the folder level. TeleFinder/User keeps customization resources and system configuration in a separate settings file for a variety of hosts. TeleFinder/User also now supports "Finder Drag and Drop" so users can drag files directly from the actual Finder into TeleFinder's window to upload them, and from TeleFinder to Finder to download. This feature is only available under System 7.5, or Drag and Drop enabled 7.1. Drag and Drop is not limited to icons. You can also Drag a block of text and "clipings" files into TeleFinder's message forms. With Drag and Drop, TeleFinder is now easier to use and more integrated with your Macintosh.

TeleFinder 3.5 also offers an increased array of standard built-in options that people can use to connect to your BBS. Formerly unbundled, these capabilities are now included. In addition to Modem connections, TFBBS has built-in support for TCP/IP network, direct serial and Communications Tool connections. TCP/IP connections let you make your BBS available on the Internet using TFBBS's full graphic interface supporting both Windows and Mac clients. Also, by using Connection Tools you can run TFBBS on a diverse array of communications media, including ISDN. According to Spider Island, they now resell the Planet-II ISDN Terminal Adapters from Euronis.

In a significant pricing/product change, TeleFinder 3.5 includes the Macintosh Server (two lines, formerly unlimited), unlimited-user Macintosh and Windows Clients (Windows support had been a separate option), Command line interface (unlimited users), Internet (TCP/IP) access module (Mac and Windows, formerly an option),

AppleTalk access module (Macintosh only, formerly an option), Internet Domain Name and TFNET Membership. User group licenses start at \$200 with additional lines at \$75, commercial pricing starts at \$675 with additional per-line support at \$100. Upgrades to version 3.5 are pegged at \$95; (714) 669-9260 voice; (714) 544-6504 BBS; info@spiderisland.com Internet.

On the integrated, multi-function telephony front, Stalker Software announced and demonstrated its new CommuniGate, an extensible and scalable integrated platform for Macintosh telephony-based communications. CommuniGate is a client/server, Apple Event-based framework capable of supporting a wide variety of personal communication modules like fax, voice-mail, pager, e-mail, file transfer or fax-back. CommuniGate works with or without AOE and provides PowerTalk-like services for standalone, multiline and network use but without the overhead of PowerTalk, or the high cost of most network fax products. To retail at \$299, Stalker Software is offering CommuniGate with fax for just \$29 through June 1995 when users can trade-in the original diskette from any other standalone or network fax program for Macintosh. A separate voice-mail module, also announced, will retail at \$99. Stalker announced that additional modules, particularly e-mail and simple file transfer modules, are planned for 2Q release.

CommuniGate's server application provides a common interface for a variety of communication modules that are designed as extension files. This enables users to add additional applications as needed. One can begin using CommuniGate as a high-quality fax application, but adding e-mail will be as easy as dropping a CommuniGate module onto the System folder. And, as CommuniGate modules can support several communication lines simultaneously when employing Stalker's LineShare technology, modules can share serial ports, enabling a complex set of services (fax, voice, ARA, e-mail, file transfer) from one or multiple phone lines. The first version of the voice module will come with a modem-specific submodule supporting ZyXEL modems; sub-modules for other modems will follow. (415) 927-1026 voice; info@stalker.com Internet.

Similarly, another integrated telephony application was announced in early January (but not shown at the Expo) by MUSI Computer Products. Slated for a June release, TeleNavigator provides a suite of communications tools to enhance collaboration and productivity through seamless integration of e-mail, voice messages and fax. The package will retail at \$99 until the end of November then sell for \$199. TeleNavigator will work only with AV-equipped Quadras, Power Macs and the Geopto Telecom Adaptor and Apple Telecom extension 2.0. Interestingly, TeleNavigator will provide voice navigation of the menu commands in concert with Apple's PlainTalk voice-recognition and speech synthesis capabilities, so you can talk your Mac into making a phone or e-mail connection for you while you finish up that memo. Sources at TeleNavigator claim that the product, as a client/server, will be networkable and work with multiple lines. To support AppleEvents scripting and recording, TeleNavigator will be fully customizable and will support Apple Guide and QuickDraw GX printing. (403) 255-0794 voice; musi@eworld.com Internet.

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Oh great and merciful God of publishing correctness, and Lord of the big-time, corporate content providers and their minions;

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BEGINNER'S LUCK

by Doug Shaker

THE BIRTH OF MOTHRA

Doug Shaker
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He has
one wife, two
children, three
cats, four
computers and
five telephones.

Last month I took a look at a lot of different BBS software and ended up picking something called TSX-BBS from S&H Computer Systems of Nashville, Tennessee. This month, I need to get my BBS running. For reasons not entirely clear, even to myself, I have taken to calling my system Mothra. This month, we witness the birth of Mothra.

It's been a busy month. The good part of it was that I got to buy an intelligent serial controller, a big hunk of software, two phone lines and a couple of modems. That was fun. The bad part was that I had to make them all work together. That was exhausting and tedious.

Let's remember the good times first. There is something dandy, something fine, that stirs the heart of a nerd like myself when a package arrives with new hardware or software. The software is in its little license bag, the manuals are neat and tidy. No bugs are known, no limitations crowding in. It is still perfect. The hardware arrives in the anti-static bag. The board is new — no data except test data has crossed its little electronic synapses. For the moment, just for the moment, it hasn't been used and it's not obsolete. And it's yours. It is a nice moment, before the grunge of IRQ settings and the like comes to stain the purity of the experience. I ordered a bunch of stuff and had my bit of nerd heaven.

But then I had to make it all work. Task number one was to hook up the new CPU, a 90mhz Pentium. The trouble is that my office measures about 10 ft by 12 ft. It has two desks, a bookcase, two computers, a copier, a fax machine, a file cabinet and a bunch of other stuff in it already. I can squeeze in another CPU (under the desk, next to my left foot) and a bunch of modems (in a stack, to the right of the monitor, to the left of the credit card machine), but there is absolutely no room for another monitor, keyboard and mouse.

I am not unique in having this problem. People who run serious file servers often have several of them in one location and run them all off of one monitor and keyboard. There are some fancy switches that will allow you to hook several CPUs to one display and keyboard. I looked at some of them (Raritan (908) 874-4072, Cybex (205) 430-4000). The problem is that they seem to cost \$500 to \$700, and it just seems bizarre to me to pay that much money for a fancy switch.

While I was pondering this problem and trying not to feel sad as I kissed \$500 good-bye, I looked in a catalog from JDR Microdevices (408 494-1400) and

found a video-keyboard switch for \$29.95. Hallelujah! A cheap solution! I called them up and found out that I could also get a switch that would work with a serial mouse. With two switches, I would be able to use one monitor, one keyboard and one mouse for two CPUs. I bought the switches.

OK, but the mouse switch requires a serial mouse and my old 486 had a bus mouse in it. So I bought a serial mouse, pulled apart my computer, took out the bus mouse, then took a look at my I/O card. It is a standard 16550 card with 2 serial ports and one parallel port. It was pretty oddly configured, because at one point I had a scanner, a bus mouse, a sound card and some other bizarre card in there. To make it all work, I had to move my serial card to some odd location. With the recent departure of the bus mouse and several previous departures, I was able to reconfigure the I/O card to the defaults and put it back together.

Then I pulled out the mouse driver diskette that came with the mouse. The install went OK for a while, then the disk started grinding and grinding. Up came a dialog box telling me that it can't read disk A: and giving the choices of "Retry" and "Cancel." I clicked on the "Retry" button. Back came the dialog box. I clicked on "Retry" again. Dialog box again. "Retry" again. Dialog box. "Retry." Dialog box. I went to college for this? I didn't seem to be getting anywhere, so why not try clicking on "Cancel" instead of "Retry." The dialog box returned. "Cancel" again. Dialog box again. "Cancel" again. Dialog box again. Maybe buying the mouse from that bizarre guy in a second-floor apartment littered with electronic junk wasn't such a good idea after all. How can I get out of this loop? Control-Alt-Del! That'll teach you, you stinking computer! Don't mess with me, I know how to boot! Ha-ha-ha-ha! I laughed my best mad scientist laugh and rummaged around in my diskette junk box. My pack rat tendencies were rewarded when I found another serial mouse disk, possibly even for the same brand. It installed and worked fine. Hurdle number one was over.

Now my printer, an HP Laserjet 4P, started to complain in its very own dialog box: "I/O Configuration Error." I changed the memory location of the parallel port when I reconfigured the I/O card, but how would the printer know that? I looked in the printer manual — nothing useful. I looked at the help files that were attached to the window that displayed the message — nothing useful. I took a look at the README file that was on the diskette that came with the printer — nothing useful. Why is everything so stinking hard?

Finally, I used an old sys-admin trick. I opened the Program Manager in Windows and looked at Properties associated with the icon that launches the status software for the printer. That told me where the status software was. Then I looked in that directory and found a file labeled "HP4P.HLP." I double clicked on that and, in a few seconds, found the advice that "The serial or Centronics interface is improperly configured. Press [Continue] on the printer to clear the error." Sheesh! All that and all I had to do was press continue. The printer started working fine again.

Now, I had a working serial mouse and I was able to install the switches. Ooops, no, wrong again. The switch comes with all female connectors. My mouse has a female connector. That won't work. The cables I bought to go from the switch to the CPUs are male-male, but the connectors on my I/O board are also male. That won't work, either. So I ran down to the local computer store and got three gender changers. But Mothra's daddy is a bit scatterbrained. No, actually, that understates the situation considerably. Sometimes my family believes I must be in radio contact with Mars, because I sure don't seem to be home. This seemed to be the case when I was at the computer store, because I came home with three male-male gender changers when I needed one male-male and two female-male. So, taking myself in hand, I drew myself a picture of the cables and connectors and returned to the computer store to get the right stuff. Finally, my 486 was working and attached to the switches.

Adding the Pentium to the switches went smoothly. After I attached everything, I could switch back and forth between CPUs, and the mouse and keyboard work perfectly. The video was fine at low resolutions (800x600) but at high resolution (1024x768) everything dark had two or three white ghosts to the right of it. So, sigh, I called JDR and mentioned it. They thought the switch was defective, but I kind of doubt it. The switch is cheap — how much can they spend on the manufacturing if they are selling at retail for \$29.95? There can't be anything fancy in it, so the ghosts are probably echoes and reflections in the video signal caused by the switch itself. But they promised to send me another one, so what can it hurt to try it?

Meanwhile, I had more work to do. Now, I needed to transfer all my data and programs from the 486 (soon to be Mothra) to the Pentium so I could put

the BBS on the 486. I would like to lie to you and tell you that there was some fancy technical reason why the BBS wouldn't run on the Pentium — "Of course, the fangistrum ratio on a Pentium-PCI is just unacceptable for high fluidium applications." But the honest truth is that I saw how fast Windows ran on the Pentium and I wanted that sucker for myself. If you run Windows and can afford a Pentium with a PCI bus, a PCI disk controller and a PCI video controller, then I say check it out. It's hot!

I had ethernet boards in both systems, so I upgraded the Windows that came with the Pentium from the usual Windows 3.1 to Windows for Workgroups 3.11, and exported the proper disks on each machine. Then I started moving directories over. But, of course, it ain't that simple. When windows applications are installed, they usually create an INI file in the windows directory and DLL files in the windows directory or the windows\system directory. The INI files often refer to their own location, so they are not easily moved. These files are messy enough that there are several companies that make a living selling programs that do nothing but delete windows programs cleanly. The very existence of such an industry is a pretty amazing indictment of the Windows architecture, no?

I don't really know of an algorithm for a successful move of a Windows program, but what I did seemed to work, mostly. I copied the program directory from the old machine to the new machine, and then assumed I was missing the DLLs and INI files. Then I got out my program diskettes and reloaded the latest version into the new directories. This seems to take care of the DLL problem, but it abandons all of the information in the old INI files. Usually, I just did without. However, when the INI file seemed particularly useful, I printed a copy of the old one and then hand-entered changes into the new one. This usually worked fine.

Then I tested my programs on the Pentium to see how the move went. Everything was usable except - Gack! — anything that had to do with a modem. But the problem couldn't be too bad. After all, the mouse was working and it was COM1 on the same board.

I tried all of my communications programs. ProComm and uucp didn't work. Actually the phrase "didn't work" seems like kind of an understatement. I could launch the programs, but as soon as I started to use the modem, the entire system would freeze solid.

Windows was dead, the mouse was dead, and I couldn't even boot with a Control-Alt-Del. I had to do a hardware reset to get the system working again. However, in a bit of weirdness that only computers are capable of, the free terminal program that comes with Windows, MS Terminal, did work.

All right, what are the possibilities? I don't use MS Terminal, so it was still in the default configuration — 1200 baud and XON/XOFF flow control. Hmm, I thought, could it be baud rate? I tried ProComm at three or four different baud rates. It froze every time. I tried uucp at three or four different baud rates. Same thing.

Well, I bought this serial card from the guy from whom I bought the mouse software. Hmm. I was getting a pretty spectacular form of failure. If it was software, you wouldn't expect to have to use a hard reset to get out of it. On the other hand, I like to use hardware flow control in my telecommunications software, so if there was a short between that signal on the COM2 port and some other line, then I might get a total system freeze when I tried to use the modem. I went back to the local computer store *again* and bought another I/O card.

When I got home, I pulled the old I/O card and disabled the serial and parallel ports. The card was also my floppy controller, or I would have removed it entirely. Instead, it just got chopped down to size and returned to duty. The new I/O board went in the next slot. I hooked up the modem to the new COM2, booted the system and tried the software. Bingo! Everything worked.

After all the files were moved, I did a backup of the 486 disks — I may be scatterbrained, but I'm not stupid — and then I started deleting files from the 486. Easy and fun! Two hundred megabytes free here! Four hundred there! Death to all of you pesky files!

Now my new personal system was up and going and it was time to get started on Mothra. As a piece of hardware, it wasn't in such bad shape. There wasn't much software on it and not many cards. I still needed to install an intelligent serial card so that I could have a few lines going at the same time.

I had chosen an Arnet Smartport for my serial board (Arnet Corp., Nashville, TN; (800) 366-8844). It's fast, it wasn't too expensive, and Arnet is in the same town as S&H Computer Systems, the suppliers of my BBS software. Nashville isn't huge — some of the Arnet people may know some of the

S&H folks. If I have problems, maybe that'll make it easier to get it fixed. The main problem with the Arnet board is that it needs a 64K block of main memory. Still, it seemed like a good deal, so I took it.

The trouble with installing the board wasn't really with the board at all. My BBS software, TSX-BBS, comes with its own operating system called TSX. TSX is a 32-bit multi-tasking OS that has real-time features that make it well-suited for BBS applications. However, it is not an OS with hordes of users and supporters. It is an OS with, shall we say, a select audience. The Arnet manual has installation instructions for 14 operating systems, but TSX isn't one of them. I got out the board, read the manual and decided to try installing it under DOS. When it was going under DOS, I could install the TSX OS and get it going under TSX.

I used MSD, a middling-decent diagnostic utility that comes with Windows, to find out how memory was mapped. No 64K blocks. Then I started disabling things and found that if I disabled some of the CMOS shadowing options, I could get a 64K block free and clear. I tried out CC0000H, but it didn't seem to work.

I decided to try installing and testing under TSX. I ran the install program. The files went in easy enough, but the system began to ask embarrassing questions. What is the IRQ and address of the SCSI controller? What is the SCSI ID of the disks and the CD-ROM drive? It needed to know hardware details before it can generate a kernel for itself. Luckily, TSX coexists with DOS easily. I was able to find most of the answers by looking at the boot messages under DOS. When I got all the questions answered, TSX started running.

But the serial board still wasn't running. So I called Arnet, and they were very nice. They informed me that, for reasons I still don't understand, CC0000H is not a good location to try under DOS. They suggested moving it to E0000H. I changed the DIP switches to the new address while they were on the line and — voila! — the diagnostic program declared the card to be just fine.

So I went back to TSX, changed the config file to reflect the new address, and tried again. No luck. The serial card still wouldn't talk to the modems. Abandoning my techno-macho, I called S&H and talked to one of their excellent support guys. He talked me

through a walk through of my config file, where we found several mistakes I had made, but none of the fixes made the serial card start working. Finally, after about 45 minutes, he put the OS into debug mode and called over a hardware guy. The hardware guy started me looking at hex dumps of memory. After a few minutes we found that, yes, the Arnet card was at E0000H and it had the proper items in memory. The problem was, ahem, I had told the system in the config file that the card was at E00000H. Note the extra zero. It was a plain old bone-head mistake by yours truly.

And it turned out to be the last hurdle. In two more minutes, I regened and reloaded the TSX operating system. It worked perfectly and the serial cards were talking to the modems just fine. It took me about ten more minutes to get the BBS software installed. I called in from my personal system and Mothra answered! I now have a content-free but operating BBS system. Victory! Now I need to get something on the system so people will have a reason to call in. ♦

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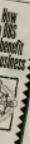
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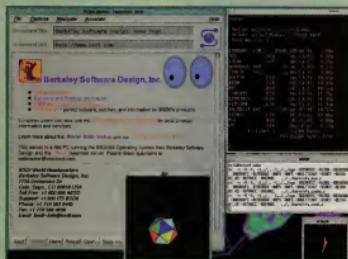
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DELPHI

by Walt Howe

DELPHI TO USE NETSCAPE SOFTWARE

In a February announcement, DELPHI revealed some of the details of what its next generation interface will look like. DELPHI will soon be offering Netscape Communications Corporation's Mosaic-like graphical user interface for Internet access. The Netscape Navigator is a full multimedia interface, which can display World Wide Web graphics online. Up until now, DELPHI's web access has been limited to text-only modes. The Netscape Navigator, version 1.0 was recently released by the company, and it is available now by ftp from <ftp://www.netscape.com> or from Netscape's WWW site at <http://www.netscape.com>. There are currently versions for Microsoft Windows, Macintosh, and UNIX. The first screen pictured shows Netscape's home page, as seen by the Netscape Navigator.

Walt Howe is the Internet Special Interest Group Manager on DELPHI. He has sysoped for several BBSs including the old Source network, CompuServe, and Delphi. Over the last four years he co-authored with Steve Lambert *Internet Basics: Your Online Access to the Global Electronic Superhighway*, available in most bookstores. Walt has also written a number of user manuals for various computer companies, including Delphi. Walt can be reached by e-mail as walthow@delphi.com. A five hour free Delphi membership is available by dialing (800) 695-4002 by modem and using the password INTERNETSIG.

The system has not been implemented as of this writing, but it should not be too long in coming. No dates have been announced for availability, nor have details on the type of connection required. Netscape and other Mosaic types of software normally require underlying TCP/IP software, such as Trumpet Winsock for Windows or MacTCP for the Macintosh. I expect to see DELPHI offer the supporting TCP/IP software with Netscape or perhaps with the TCP/IP integrated into a single package. The various versions of TCP/IP and Mosaic for Windows have all suffered from bugs and compatibility problems, but they have been steadily getting better. Up until now, Mosaic has been pretty much an adventure for the early adopters who love to solve frustrating problems.

Prodigy's new Mosaic-like interface has shown that the problems can be solved for most members, and the online services are racing to get their complete packages in their members' hands. Still, if you are running Windows, you better have more than 4 megs of RAM!

DELPHI licensed the use of both the Netscape Navigator and the Netsite Commerce Server. The Server will be used to provide services and features to Delphi members. Used with Netscape, it will also provide secure communications between Delphi and its members and business partners. Security features to encrypt personal and private information have long been needed by the nets. Netscape and DELPHI will be among the first to offer the protection needed on the normally wide open and vulnerable Internet. Netscape also recently announced an agreement with Mastercard to develop secure business transactions.

One key difference in Delphi's implementation from Prodigy's is that the system will be based on open Internet standards. Members will be able to use

other versions of Mosaic, if they prefer, or other Web browsers like Cello and Lynx. They may lose some of the functionality built into Netscape, such as the online security, but other software will work, and it opens up the possibility that other neglected platforms, such as the Amiga, will be able to get online graphically, too.

Visually handicapped users will not be left behind, either. The present text-only interface will continue to be available indefinitely.

Delphi has quietly been encouraging its SIG managers and Custom Forum hosts to learn more about World Wide Web pages and gopher setup to prepare for the new interface. A training forum has been set up for the hosts, and training conferences have been held. The hosts are learning to create URLs—Uniform Resource Locators, the hypertext or hypermedia links which are the basis of World Wide Web home pages. This is a real plus for the approximately 400 memberhosts who have taken advantage of the opportunity to create their own Custom Forums.

Delphi's gophers and newsreaders have been undergoing a transformation, too. The many custom



gophers built into the SIGs and forums are being rechristened as Internet Navigators. Whereas, until recently, a gopher could access other gophers, telnet sites and ftp sites, they now can put hypertext links to World Wide Web sites and newsgroups, too. It allows the SIG manager or forum host to put in links to related material of all types throughout the Internet.

While the new Internet Navigators are still in menu form like a gopher, it is easy to project a time when the basic format will be the multimedia home page.

DELPHI UK NOW OPEN TO US CUSTOMERS

Delphi Internet Services Corporation recently announced U.S. access to its rapidly growing new service in the United Kingdom, Delphi Internet Limited. Building on the parent News Corporation's extensive presence in the United Kingdom, Delphi Internet Limited will provide local access and unique, tailored services to personal computer users throughout the British Isles.

The move signals Delphi Internet's expansion into international markets as part of the company's plans to become the premier online service for interactive entertainment, information and communications services for consumers worldwide. As a Delphi Internet Limited exclusive, members can instantly access headline news and technology, marketing, education and other up-to-the-minute information from the Times of London. Delphi Internet and its U.K. service are seamlessly integrated to enable members from the United States or United Kingdom to access services and chat with fellow members from either side of the Atlantic Ocean. There is no extra charge for Delphi UK access.

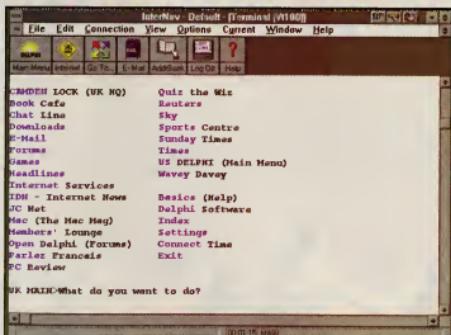
Launched just last September, Delphi Internet Limited has already become a market leader in Great Britain. In addition to the Times of London online, the U.K. service has also developed services for SKY

Television, Jewish Chronicle, and two leading U.K. computer trades, PC Review and The Mac Magazine. Like its United States counterpart, Delphi Internet Limited provides its members with comprehensive Internet access and a wide range of distinctive services such as Camden Lock, Through its extensive member support area, Delphi Internet Limited offers some of its most unique services including online service news, classifieds and online shopping.

Unique Online Jockey personalities
Delphi Internet Limited's "OJs," David WaveyDavey" Winder and Stephen "The Wiz" Boyd host eclectic discussions and trivia matches, respectively.

Internet Daily News Service for members to access the addresses of interesting Internet sites, exchange stories with other 'Net explorers and observe the impact of the Internet media coverage on the "off-line world."

More than 70 Custom Forums The U.K. service provides discussion groups with a British flair, including the Skiing forum for learning about the hottest European slopes and resorts, the London forum for chatting about the capital city, the Employment forum for tips on job-hunting in the U.K. and the Small U.K. Businesses forum for dis-



cussing small company management. Delphi hints that the United Kingdom expansion is just the first step in developing a truly worldwide service. With the resources of News Corp. to draw

on, the hints shouldn't be taken lightly.

MUD II ADDED TO KESMAI GAMES

DELPHI has recently added MUD II to its suite of multi-player Aries games, which include Harpoon, Stellar Emperor, Island of Kesmai, Air Warrior and Federation II. MUD II is one of the best of the multi-user dungeon genre that are prolific on the Internet. MUD I, its predecessor was born in 1979 in the United Kingdom and found its way to CompuServe as British Legends. Unlike CompuServe, this one is playable for under \$2 an hour, including Delphi connect-time on the 20 hours for \$20 plan.

MUDs are a text game of exploration, fighting and wizardry. Characters advance by exploring, solving puzzles, finding treasure, fighting and surviving. As characters become more experienced, they gain in strength and abilities, but they have to survive to do so. The games are very addictive, and this professionally done MUD is one of the most absorbing. It is an interactive game, and usually encounters with other players and staff are part of the game, too. The encounters with other players and staff are usually friendly, but it's a good idea not to get a powerful player angry with you.

Some users have asked why, when there are so many free MUDs on the Internet, anyone would pay to play one. The staff of MUD II explain that most Internet MUDs have a limited life. They are usually based in a university or college, and when the student running it graduates or the college decides it is taking too much bandwidth, the MUD disappears. This game has been going for years elsewhere, and it promises to do so on Delphi, too. The game is not static, but continually changes and improves.

If you do want to try MUDs on the Internet, the Electropolis Games menu has Internet Navigator links to over 300 MUDs, MUSHes, MUSES, MOOs and other types of interactive games on the Internet. ♦

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THE MARKETPLACE ROAD TO THE INFORMATION HIGHWAY

by Murray Turoff

Murray Turoff is Professor of Computer and Information Science at the New Jersey Institute of Technology in Newark New Jersey. He can be reached at murray@eies.njite.edu

"The ART OF PRINTING diffuses so general a light, augmenting with the growing day, and of so penetrating a nature, that all the window-shutters, which despotism and priest craft can oppose to keep it out, prove insufficient." — Benjamin Franklin, October 2, 1783

While it might be argued that Ben Franklin was the originator of the window metaphor, it is far more important for our purpose that he represents a time in the history of this country where the functions of writer, printer, and publisher could be carried out by a single talented individual. There is the opportunity today to recreate the information industry as the cottage industry it was at the time this nation was founded.

Sometimes the shortest distance in Hyperspace, and anywhere else, is not a straight line. We have an unfortunate tendency, as a society, to look for straightforward simple solutions to problems that are not simple. We also hope that the solutions that have worked in the past will work in the future.

Neither of these approaches will assure the information highway as a public, free for all, system. What it might produce is an electronic version of the physical highway in the movie "Brazil" — continuous billboards on both sides of the highway hiding an unending expanse of lifeless polluted grounds, with mountains of junk obscured by an opaque haze of smoke and dust.

The road to freedom of the network and public access for all might be approached by reminding ourselves that we are not just a democracy, but a "free enterprise democracy." We believe, or profess to believe, that no government or group of individuals has sufficient wisdom to design our social system. Instead we have always said, as a country and as a society, that a free and open marketplace, with no hidden restraints of trade and monopolization, is the way to insure the rights of the individual to life, liberty, and the pursuit of happiness.

In all the years that I have spent in designing and trying to understand the nature of group communications in the network environment, the one definitive observation that can be made is that the design of such systems is the design of social systems. Today INTERNET stands out as the group communication system whose scope is a social system on a nationwide, and even international, basis. For this reason we need to approach questions about the future of INTERNET as questions about the future of this nation and its social relationships.

The fathers of this country realized they were designing a social system unlike those that had gone before and they set down the long term objectives for a free enterprise democra-

cy to guide the framing of the constitution. They did not attempt to extrapolate a slightly modified version of a monarchy as a view of the future. Similarly we should not extrapolate the future of INTERNET by assuming it will be an extrapolation of the current social system. We need to take a normative view and ask, what is the future we want, and how do we work backward from that goal and get there from where we are now?

Those early networkers, the founders of our country, were right and that the objective we should be seeking is a free market and free enterprise democracy. If that is accepted as the objective of the social system for the operation of INTERNET, then it is amazing how clear and deductive everything becomes.

For those who somehow think the current completely free utilization version of INTERNET is a viable social system, consider some of the long term wisdom of our culture: "There is no such thing as a free lunch!" and "You get what you paid for!" These are surprisingly applicable if we realize that INTERNET and the technology it represents can revolutionize the economics of information distribution. In fact, one can draw an analogy between the current information industry in this country and the British Monarchy during the American Revolution. Today's writer is very similar to the American colonist without representation in the economic system.

In digital networks the technological cost for the delivery of information is linearly dependent upon the amount of information; there is no "economy of scale."

On a network one does not save any money by delivering a whole book, newspaper, or magazine. The rather important corollary is that it is perfectly economical to distribute a single poem, recipe, story or editorial.

The value placed upon distribution will be significantly less than the value placed upon creation, because the cost of distribution is many magnitudes less in the electronic environment than in the physical environment.

Today authors may receive royalties of ten to twenty percent of the revenues from paper or broadcast products whose content they have created. In electronic networks they should rightfully command eighty to ninety percent of the revenues. A person writing a story that is sold for ten cents to a hundred thousand people electronically should be able to retain eight cents, and a twenty percent transaction fee (two cents) is probably sufficient to pay for the true costs of the electronic distribution technology. The creation of information also includes creating new forms of it in terms of summarization, filtering, organization, indexing, linking. The role of talented gatekeepers, as individuals not organizations, will become more highly respected and subject to greater financial remuneration.

New and changing information will have greater inherent value than fixed information.

Massive personal storage facilities for electronic information will make distribution largely one time occurrences. Those who create information will be the true value creators.

This revolution in the distribution of information is likely to shake up and modify our current media and publications industry structure as much as the original revolutionary war modified the British Empire. All this talk in the press about whether the phone companies, the cable companies, or the current media companies are going to win the right to sell to all us citizen consumers is as relevant as the British monarchy assuming it would continue to have the right to tax the colonies without representation. By trying to fit this new technology in to the current perceptions of information distribution the real opportunities are being completely ignored.

The first key to understanding the future of INTERNET and of the concept of the "information highway" is to realize that it is the citizen who needs the right to be the information provider. What needs to be assured by government is that artificial constraints of trade, such as discounts by volume, artificially high charges for plugging computers into the network, and any regulatory or pricing policy that says there is a difference between a consumer and a provider of information, will be prohibited. Any such inequities would be an attempt to set up unequal class structures within the social system.

Information providers do not have to be limited to creators of original works. They also include those individuals who can review what others have written, and who gain a reputation for being able to inform others as to what is worth reading. There will always be a need for the reviewers, synthesizers, filterers, editors, and a new class of what might be called "information brokers." However, the size of the staff to review and make available meaningful collections of material is likely to be much downsized from what we currently think of as a publications organization.

A true free market assumes that the consumer has adequate information to make an intelligent choice among alternative products. That particular economic condition is sometimes very difficult to realize in the physical world of paper. The costs of advertising represents a majority of the costs for many current information products. In the network we can easily design capabilities to minimize this factor and to ensure a true free market:

People who have purchased an item of information can vote on whether they think it was worth the money and the resulting vote distribution can be attached to the creator's advertisement in such a way that the creator cannot remove the feedback. If the product has a limited size market, actual qualitative statements can be linked to the advertisement.

Creators of the information can raise and lower the price at any time according to the degree of positive or negative consumer feedback, or this can even be done automatically by the computer. Products will be able to find their own true economic value.

With a database approach to advertisements and the ability of consumers to search for what they want, the need for "junk mail" is severely minimized.

In an electronic network information marketplace there do not have to be fixed prices. In fact, the information marketplace view solves many problems far better than trying to use Band-Aids to adapt the current industry model to the network environment. For example, people have proposed that ownership of a consumer's transactional data would eliminate junk mail. The economic way to eliminate junk mail is to allow receivers of mail to place a cost to the sender on any mail sent to them, which would be a linear function of the size of the message. Each individual must be allowed to adjust this cost factor to the value that he or she places on their time. This would very quickly eliminate the junk mail problem. It would also promote equality of communication among groups of people who want to communicate as a group (two or more). Philosophically it does bring about equality between sender and receiver.

The essence of a person's value as a creator or reader of information is the time a person spends, and a marketplace should allow charges for the time of people in any valid role in the network. Many communication structures on the network could also allow for other types of charges, such as a monthly charge for being a member of a conference, which would go to the person organizing and facilitating the conference.

Once we have a marketplace active, the operation of the basic network can easily be paid for by a fixed percentage cost

of the transactions that are carried out by the buyers and the sellers. In essence, a "stock market" for information transfer. It now becomes clear that the public utility that provides the "carrier" services must be an integrated service of:

Basic data communications

Advertisement databases with abilities for accumulating feedback from purchasers.

A credit/debit transaction accounting system to keep track of the buying and selling and to properly settle accounts.

Clearly, this type of carrier cuts across a number of separate industries that exist today under separate regulatory environments. Clearly that current regulatory separation can be used to inhibit the evolution of a truly free marketplace. We created marketplace software on the EIES system in the early eighties, but the university decided a state institution could not operate such an enterprise across state lines without perhaps violating a host of possible regulations. We therefore were limited to treating it as a virtual money monopoly game for our users.

The current information industry attitude, that only big companies able to pay large significant entry charges are going to be information providers, can further delay the creation of true, free and democratic marketplaces. While the attempts of some online services to allow writers a royalty on the time charges of users should be applauded, this is a perpetuation of the old technology. Unless writers can set their own selling price, there is no free marketplace.

The other critical aspect of a free and open marketplace is that it does not attempt to impose ethnic and cultural norms upon its participants. INTERNET has grown up with a very real degree of open flow of information of all types. This has taken on the atmosphere of being an ethic for the network as a whole. This atmosphere has become almost a cause célèbre as those that have partaken of it seem to have reached the conclusion that this is the ideal social system for the rest of our nation. Somewhere along the way it has been forgotten that we are a multi-valued society and we do not believe in imposing uniform values on all seg-



ments of the society. It is usually a point of pride that our sense of freedom allows a rich variety of ethnic, religious, and political groups that are as different as night and day.

If we are prepared to accept the rights of the Jewish Hassidim, the Amish, the Catholics, the Unitarians, the Democrats, the Republicans and the Nazi party to have their beliefs, to encourage their children to these beliefs, and to propagate their values in their community, how is it that many on INTERNET expect that they can change the multi valued fabric of our society and impose a universal ethic on those who have not yet seen the network light? We have got to get away from treating this technology as a new religion and rather think of it as a vehicle for extending the multi valued character of our society. The essence of networking as a social system facilitator is that it allows any group, no matter how small, to organize and exist as a functioning group at a much lower investment level than is possible by any other mechanism.

A free and true electronic marketplace will allow the evolution of INTERNET into a multi-valued society with many alternative group structures that allow groups to exercise the rights to discriminate on what information they want,

who they want to communicate with, and what they want to see conveyed to their children. It is the marketplace that can insure our democratic values far better than the current implementation of INTERNET.

The current public debate, both in the press and on the part of government officials, about the future of the information highway seems to ignore completely the key issue: are we a society that truly believes in a democratic free enterprise system, or do we want to perpetuate the current monopolistic practices over the creation and distribution of information? It should be the inherent right of every individual to both create and market information. This right should not be inhibited by artificial barriers of an economic, regulatory, or software type.

INTERNET is an experiment in creating a new social system. It is a space where we can live and evaluate the possible futures open to us as a society. As such, the logical next step is to create the software that will allow users to participate in a netwide free access marketplace. If the government truly wants to put INTERNET on a pay as you go basis, this is the quickest and best way to obtain that financial independence. It would also be an expression of what we state is the basic values our country is based upon. It would counter the efforts of those organizations that hold the economic sway in the current distribution of information to maintain what will become a monarchy rather than a democracy.

With respect to information and its role in our society we have a real opportunity that can ensure a true free enterprise democracy in this country. Whether we can make that happen remains to be seen, if there is awareness of this issue in the various government bodies and even the press, it is well hidden. The existence of INTERNET is an opportunity for government

to express whether or not its expressed "belief" in the free enterprise system is real or virtual.

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[MURRAY TUROFF is Distinguished Professor of Computer Science and of Management at the New Jersey Institute of Technology. For over two decades Dr. Turoff has been active in research and development associated with the utilization of the computer to aid and facilitate human communications. Credited as "the father of computer conferencing," he designed the first computer conferencing system while working in the executive offices of the President of the United States in 1970. Included in his three books and scores of journal papers is *Learning Networks: A Field Guide* (co-authored with Linda Harasim, Starr Roxanne Hiltz, and Lucio Teles), in press, MIT Press.

Turoff is most proud of the book he jointly authored with his wife (Roxanne Hiltz): *The Network Nation: Human Communication via Computer*, which won the 1978 award of the Association of American Publishers as the outstanding technical publication of the year (Addison Wesley, 1978; an expanded edition was published by MIT Press in 1983). In March of 1994, they received the "Pioneer Award" from the Electronic Frontier Foundation for their "significant and influential contributions to computer-based communications and to the empowerment of individuals in using computers." He can be reached at murray@eies.njit.edu - Ed]



PRODIGY

by Ric Manning

PRODIGY BEATS THE PACK TO WEB ACCESS, TURNS MEMBERS INTO INTERNET SURFERS

You can excuse Prodigy executives if they're suffering from elbow pains. You see, they're busy patting themselves on the back ever since mid-January when they rolled out WebBrowser, Prodigy's online access to the Internet's World Wide Web.

Beating CompuServe and America Online to the Web is like being the first car company to offer an automatic transmission. Pretty soon, everybody will have one, but it's great to be first. Just ask them. By the end of the month, Prodigy was crowding that new sign-ups were rolling in at the rate of 10,000 a day.

Now that Prodigy has given us access to heart of the Internet — not just mail and newsgroups — we're going to be asking some new questions:

WHERE CAN WE GO?

Just about everywhere. I couldn't find any Web sites that would link from my local SLIP account but not from Prodigy. WebBrowser, me to Playboy's home page without hesitation.

That kind of freedom is a little unexpected from a service that took pride in being an electronic chaperone. The only precaution that Prodigy appears to take is a posting warning subscribers that there is adult-oriented material out there in the Wide Web World and a routine request asking users not to abuse their access.

Prodigy's Web journey begins on its own home page. (The address is <http://antares.prodigy.com/welcome.html> but don't bother trying to it from outside Prodigy, visitors aren't welcome). The page is a collection of links to some excellent sites, including Web-wide indexes such as Stanford's Yahoo Page.

A list of News sites includes a link to the new online newspaper posted by the San Jose Mercury News. That's a curious situation, considering that the Atlanta Constitution, New York Newsday and other papers are paying Prodigy to have an online paper on the system. San Jose, however, becomes a de-

facto Prodigy feature without giving the service a dime.

Prodigy editors have apparently worked hard to create some very meaty pages. The page for small businesses, for instance, has dozens of links to a wide range of Web sites. You can click your way to government sites sponsored by the Small Business Administration, look up newsletters and journals, jump to pages created by state and local agencies and plug into Usenet groups for small businesses.

WHAT CAN WE DO?

Not quite everything. Basic links appear to work just fine. I jumped from Web pages to Gopher documents with no trouble. And Prodigy says its Internet services also support FTP.

The screenshot shows the PRODIGY Web Browser interface. The menu bar includes File, Edit, Options, Navigate, Help. The toolbar includes Forward, Home, Stop, Back, Reload, Stop, Reload, and Load Images. The main window shows a title bar for 'PRODIGY Web Browser' and a URL bar with 'http://antares.prodigy.com>Welcome.html'. Below the URL bar is a status bar showing 'Connected to PRODIGY Web Browser'. The content area displays a web page with text and links, including a 'Hot Spots' section and a 'List of Lists' section.

Some forms-based Web pages, however, may give WebBrowser some difficulty. And the "mail to:" option found on many Web pages doesn't work with WebBrowser.

I was particularly disappointed that WebBrowser doesn't support Windows' define-and-copy option. You can't highlight a portion of a page viewed in WebBrowser and copy it to the Windows clipboard. The "Copy" option on Windows pull-down menu works, but it captures the whole page in HTML format.

I do like Prodigy's Hotlist option. It captures the address of a Web page while you have it on your screen. And it's much easier to use than the Bookmark options I've tried to master on Mosaic or Netscape.

HOW FAST CAN WE GET THERE?

Ah, there's the rub. Cruising the Web at 9600 bps is a lot like the bad old days when we had to wrestle Prodigy at 2400 bps. Somehow, I don't think many users will be in the mood for nostalgia.

Ric Manning writes about computers and technology for *The Courier-Journal* in Louisville, KY. His weekly column on consumer electronics is syndicated through the *Gannett News Service*. Ric reads his e-mail at ricman@glou.com on the Internet, and [USM224 on Prodigy](http://USM224.onProdigy).

Much of the Web was constructed by people with super-fast workstations and high-speed data lines. For them, a full-screen GIF file is no big deal. But for Prodigy subscribers — many of whom will be paying hourly fees to do their Web browsing — loading image files will be a very big deal.

It took me more than three minutes to load a page that contained a fairly small 42 Kb GIF file. Want to load other pages that feature larger full-color graphics? Better take a coffee break. And don't even think about using those Web sites that offer sound clips of rock bands. Those suckers can approach half a meg.

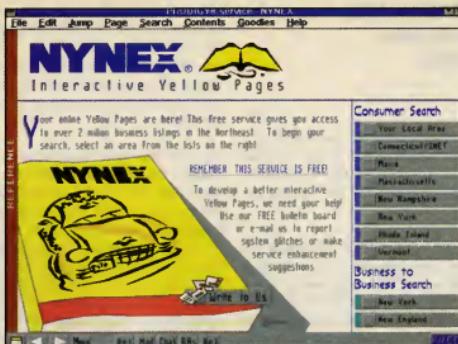
Prodigy is busy laying more pavement on its information highway. It says all of its network (Q nodes) will be upgraded to 14.4 Kbps by the middle of the year. When I checked the list in early February, 49 cities had been upgraded. To see if your town is on the list, JUMP 144 and click on Common Questions.

For folks who depend on Tymnet's network to get Prodigy, the outlook isn't so good. According to Prodigy, Tymnet has no plans to upgrade in 1995.

Prodigy is deploying a few network tricks to try to add a little speed to the system. Spokesman Brian Ek said copies of some popular Web pages — the White House page, for instance — will be stored on Prodigy's local server. That means when you call for the page, you'll retrieve it from a computer that's across town, not the server in Washington, D.C. In many situations, your request will never actually reach the Internet.

Ek said Prodigy will also store graphics from popular Web pages on the member's hard drive. Prodigy uses the same technique with its own service. It caches screens on a local server or in the STAGE.DAT file on your computer to cut down network traffic and speed system response.

"We want to be good Net citizens" by keeping network traffic to a minimum, Ek said. "When all these commercial services start offering access, the Net has got to slow down."



P2 FOR YOU

Prodigy's caching technique may hold down Prodigy's impact on the Net for a while, but what will happen when the service goes fully HTML later in the year?

Ek said P2 — I like to call it Son of Prodigy — was scheduled to go to Beta testing by Valentine's Day and make its official appearance by the Fourth of July.

Prodigy had initially timed P2's release to coincide with the arrival of Windows 95. Ek said the new Prodigy software needs 8 megabytes to run under Windows 3.1 but only 4 megs under Win 95.

"But when we surveyed our members, half of them said they had 8 megs, so we didn't see any reason to delay," he said.

If Prodigy does get P2 out the door this summer ahead of Windows 95 and the Microsoft Network, it could give the service a tremendous advantage over its competition. It would make Prodigy the first nationwide consumer online service that can offer true plug-and-play access to the World Wide Web. And that's where very soon everyone will want to be.

CABLE REPORT

Fairfax, Virginia resident Claude Fuchs plans to be among the first Prodigy members to get cable access to the service. Fuchs says Media General, the cable operator in Fairfax, is telling subscribers that it will roll out a data

access service called Gateway Virginia sometime this summer.

"This is the online connection with the Media General Newspaper, the Richmond-Times Dispatch and WWBT-TV12, the NBC affiliate in Richmond," Fuchs said. "This will be similar to the TAMPA-Bay On-line situation with the Tampa-Bay Tribune and WFLA-TV 8 in Tampa. Both the Tampa-Bay and Richmond newspapers are owned by Media General, Inc. as well as WFLA-TV."

Prodigy is expected to be on the "coax" by the end of the year. Fuchs said cable subscribers are being told that they will be charged \$4.95 a month to access Gateway Virginia in addition to their monthly subscription fees.

Although the two-way cable network is in place, Fuchs said there have been some delays in the production of cable-ready modems needed to route data services to home computers.

According to Fuchs, Media General is promising access speeds 50 to 500 times faster than with a telephone modem and 24-hour open connections to data services, eliminating the need for a second phone line.

NYNEX YELLOW PAGES

Nynex has rolled out an online Yellow Pages service for Prodigy users in seven Northeastern States: New York, Massachusetts, Vermont, New Hampshire, Rhode Island, Maine and Connecticut.

You can JUMP NYNEX to get to the pages, but you can use them only if you've dialed in from certain access numbers in the Nynex region. ♦

NEW COMPRESSION SOFTWARE OFFERS 300:1 COMPRESSION ON MOVIES AND IMAGES

by Jack Rickard

In recent months there has been some hoopla over image file formats and compression as the result of a January release by CompuServe regarding licensing of the Graphics Interchange Format or GIF (pronounced jif) file format for graphic images.

The imbroglio started last June when UNISYS contacted CompuServe to notify them of their intention to enforce a patent on the Lempel-Zev-Welch (LZW) compression algorithm. The patent had been applied to hardware devices previously but UNISYS has decided that's gold in them thar hills with regards to software and wants revenue from the use of LZW in the software community. CompuServe had used LZW as a compression technique in their GIF file format and the programming toolkit they released - ostensibly into the public domain back in 1987. The online community had been assured that they could develop software based on the GIF format without license or restriction. But UNISYS's

license so clumsily that it appeared they were also trying to restrict the use of GIF to CompuServe itself, and ban its use on any other online service. There has been so much backtracking on this since in the face of near hysteria online, that we're not sure what CompuServe actually intended, and we're pretty sure no one at CompuServe did either with any certainty.

But the imbroglio brought to the attention of the online community the issue of graphic file formats. Particularly in the currently hot World Wide Web milieu, graphics are very much in as part of the online experience. And they consume bandwidth in great gobbles. Another popular graphic format is the Joint Photographic Experts Group or JPEG format. This was given quite a boost when the Netscape Web Browser included JPEG viewing with the basic viewer. JPEG produces much smaller files for the same image, but is quite lossy when maximum compression is used. This actually works pretty well for photographic images, but it really degrades line drawings such as weather maps etc. pretty badly.

We recently came across a new graphics compression technology titled HARC C (Houston Advanced Research Center Compression) that may dramatically alter both the quality and bandwidth requirements of online graphics. Developed



attempt to license CompuServe under this patent rather than license the issue.

CompuServe negotiated a license that not only would cover their use of GIF, but allowing them to sublicense it to software developers working on GIF tools. They initially noted that all such software developers would have to sign a license agreement to prevent legal action against previously released products. After some consultation with UNISYS, and a furor online, they subsequently revised that to note no action against previous products, but a license required for all NEW software releases. The license is largely salutary - \$1 plus 15 cents per sold copy. But CompuServe worded the

by Dr. Charles K. Chui, Professor of mathematics and Director of the Center for Approximation Theory at Texas A&M, and Dr. P.K. Yuen, a research associate with Texas A&M's Department of Mathematics. Both hold appointments at the Houston Advanced Research Center in The Woodlands Texas. HARC is a nonprofit, university-linked organization promoting economic development through scientific discovery and technology transfer.

HARC C is a compression algorithm that can be implemented entirely in software. It's a wavelet-based algorithm capable of compacting an image at a variable compression ratio

while maintaining the clarity and defining characteristics of the original image.

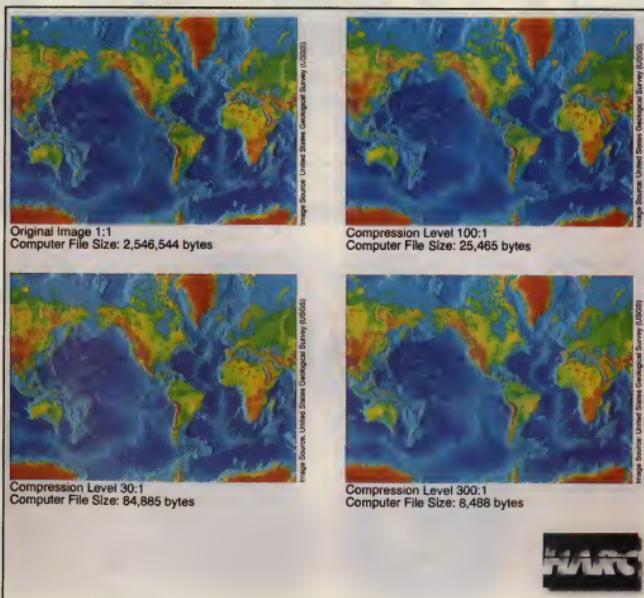
HARC C is based on wavelet image compression. The theory is that data such as sound and pictures can be represented as waves that can be described mathematically in terms of frequency, energy, and time. The mathematics underlying wavelet transformation can be extraordinarily complex. But the team at HARC have developed a method of compressing still images and video at ratios of up to 30:1 with no discernible loss and at ratios of up to 300:1 with losses still better than JPEG. Termed "boundary-spline wavelet," the algorithm is entirely in software and requires no specialized hardware. It can run easily on a PC. Even movies can be run in 24-bit color full screen (640X480) at greater than 30 frames per second with just software. It exceeds the current industry standards, JPEG and MPEG (Motion Picture Experts Group) in performance and quality for both still and motion pictures.

This effectively allows presentation of a 2.8 MB still image file in just 8 KB with very acceptable loss in image quality. And the software can easily be incorporated in existing programs. Compression is somewhat asymmetrical in that it takes considerably longer to compress than decompress.

The downside is that HARC is a non-profit technology transfer entity - not a software company. The HARC C algorithm was announced March 2nd, and they have already licensed it to Ball Aerospace to use in compressing satellite data and images. According to Thomas E. Linehan, Project Leader for

HARC C (jlinehan@harc.edu), they intend to issue up to eight licenses in different disciplines, and are currently negotiating use of HARC C in several widely used software programs.

The center sports a World Wide Web page at <http://www@harc.edu>. Since no software viewers are widely available, we were a little amused to see an image comparison of Munich Still Life, an oil on canvas by Michael William Harnett at the original scan size, with 100:1 compression, and with 300:1 compression. While the image quality even at 300:1 was extremely impressive, the images were displayed using the GIF file format. HARC C is proprietary and licensed, so it faces some hurdles in becoming an online standard. Free viewers to plug into your web browser are not likely for some time. But the compression performance and image quality are astounding, and indicate that in the future, solutions to the problem of bandwidth for video, still images, and sound are going to be very available. HARC publishes a research magazine titled Corollary. You can inquire about Corollary to jahn@admin.harc.edu. Houston Advanced Research Center, 4800 Research Forest Drive, The Woodlands, TX 77381; (713)367-1348 voice; (713)363-7914 fax ◆

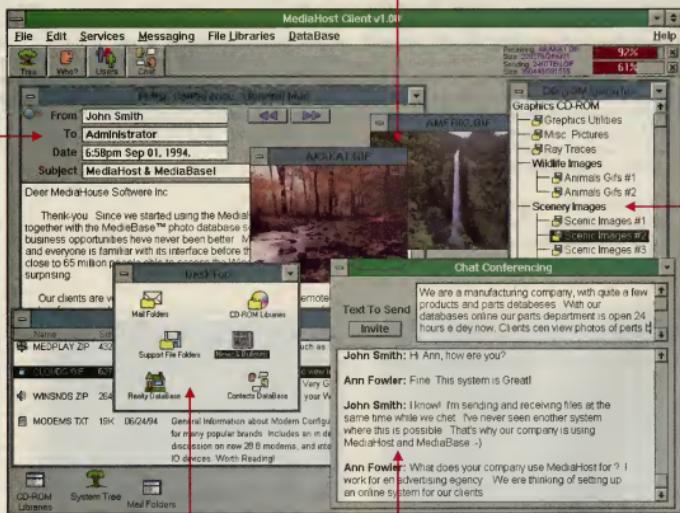


So You Need to Setup an Online Service...

E-MAIL - Private and public message areas, user mail boxes, and file attachments all in an easy to use word processor style editor.

Users can preview graphic images from CD-ROM, hard drive or any other mountable volume.

Send and receive files while using system features such as chat, and e-mail.



Menus, templates and screens can be easily customized to suit your application requirements using the MediaHost Visual Designers.

Multi-user chat with Clipboard support and scroll back.

Support for Push Button, Floating Icon, Item List, and Tree List menus.

MEDIAHOST

Online Server for Windows™

MediaHouse Software Inc.
32 Eardley Road,
Aylmer, Quebec,
Canada J9H 7A3

Sales & Info 819-682-9737
Demo System 819-682-3330
Fax 819-685-0994



Starting at \$195

- E-mail with private mail boxes and public conferences.
- BBS style File Folders with CD-ROM support.
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- Online image previews and photographs.
- Receive and send files concurrently.
- Corrects for line noise.
- Free Client software.
- Includes visual design tools.
- Configurable menu structure.
- Definable security.
- Ordering and sales interface.

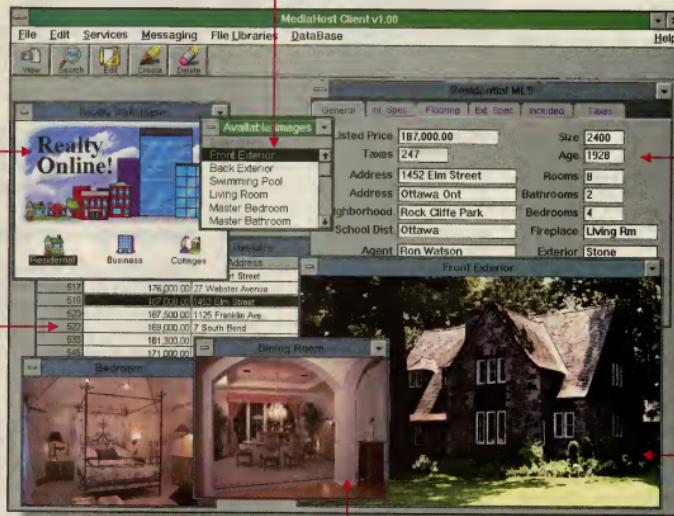


...and You Want to Put Your Databases Online.

Custom database menus are easily created in the MediaHost Visual Designers and Icon Editor.

Up to fifteen images or text files can be displayed for each record in the database. MediaBase also supports memo fields.

Custom templates can be created to display database records. You decide what fields your clients can view.



Databases and query results are displayed in a spread sheet view which is used to quickly browse through records.

Images are sent seamlessly in the background using the MediaHost bi-directional protocol.

MediaBase offers support for multiple high quality 24 bit images, for each record in the database.

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Database Option for MediaHost



- Reads/writes dBASE® FoxPro® and Clipper® files.
- Can display JPEG, CMP, TIFF and GIF™ images.
- Allows multiple image and document files per entry.
- Allows security based entry and editing of records.
- Background searches allows viewing of data as it is found.
- Intuitive spread sheet view.
- Supports multiple databases.
- Configurable spread sheets, templates and queries.
- Configurable multi-key searches.
- Integrates with MediaHost ordering interface.

MediaHouse Software Inc.
32 Eardley Road,
Aylmer, Quebec,
Canada J9H 7A3

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COMPUTING AND FILING YOUR TAXES ONLINE

by Robert Moskowitz

If the IRS has its way, personal computer users will find it easier and more convenient to file their taxes electronically not only this year but every year. Millions of us keyboard punchers have long been thinking about doing our taxes electronically and filing online. But this is the first year we'll receive significant enough advantages to make the effort worthwhile.

Not counting all the ways there are to compute your taxes electronically, there are basically two ways to file your taxes online, as an individual or family. First, you need an IRS-compliant piece of software — they're all over the marketplace and many are available through shareware sources, too. These packages accept your data, help with the computations, spew out an appropriate file or form and data print out of your tax-return information. You then send this file to an authorized agent — in this case, we're talking about CompuServe, America Online and a few others — who convert your file to the format meeting the IRS' specifications.

The agent then forwards this file to the IRS, which electronically acknowledges receipt and acceptance of your tax information — usually within two working days. Once you authenticate and complete this electronic filing — by sending in the "B" copies of your 1099s and W-2s, along with any other paperwork requiring a signature plus a special Form 8453-OL, "U.S. Individual Income Tax Declaration for Electronic Filing." You'll then receive your refund (if any) in less than half the time of those old-fashioned paper-based filers.

One limitation to all this: each family can electronically file only three returns — for example, a joint one for you and your spouse, plus separate returns for two kids. If you've got more kids or more complex needs, some of your filings will have to be done on paper.

Last year, individuals in only nine states were eligible to file electronically from their own PCs. This year, for the first time all 50 states are included. (There is also a WWW electronic filing site for Canadian taxpayers, operated by B&H Income Tax Services: <http://www.mbnet.mb.ca/BH/>.)

The second way to file electronically is to bypass the agent and mail your

information directly to the IRS. You do this through the "1040PC" option available in IRS-complain tax preparation software.

1040PC provides a condensed format for your information — basically just the line numbers and the values you enter for them. When you print out your tax filing information, on plain paper, your voluminous forms and attached schedules usually fit in a three-column list on one or two pages. You mail the print out to the IRS and wait your turn for processing, like everybody else. But at least you've avoided the tedium of copying numbers from your computer screen or print outs onto those outdated forms the IRS has always made us live by.

Either way you choose to do it, the IRS is telling everyone who will listen that electronic filing is the fastest, safest and most accurate way to file your federal income tax returns. In addition to getting your refund (if any) much faster, filing electronically avoids the danger of lost or opened mail — in both directions! If you select the "direct deposit" option when you file electronically, the IRS will send your refund not by check, but over the electronic funds transfer network directly into your bank account. It's almost worth the extra trouble to obtain these routing numbers from your bank and give them to the IRS just to find out if it works!

GET ORGANIZED

Before you begin punching in numbers, it's useful to gather and check over the basic information on which your return will depend. This includes:

W-2s and 1099s — official statements from your employers/clients detailing how much they think they paid you in 1994. The IRS relies on these numbers, so make sure they are correct, and be ready to explain to the IRS any discrepancies between these figures and what you actually report.

Other income statements, including pensions, dividends, interest, commissions or gratuities, rentals, and lottery or gambling winnings.

Documentation of expenses, which are essential if you are self-employed, including educational expenses, interest paid, medical and dental expenses, travel and entertainment, equipment, supplies, and monies you paid to employees or contractors you hired.

BE ALERT TO RECENT TAX CHANGES

The tax laws change in subtle but important ways, year to year. Briefly, here are some pitfalls and opportunities to watch for in 1994.

Standard Deductions:

Single - \$3,800.
Married Filing Jointly and Qualifying Widow(er) -\$6,350.
Married Filing Separately - \$3,175.
Head of Household - \$5,600.
Personal Exemption - \$2,450.

Earned Income Credits:

One qualifying child - \$2,038.
Two qualifying children - \$2,528.
No children - \$306.

Business:

Standard mileage rate is 29 cents.
Business meals and entertainment expenses: only 50 percent deductible.
Business club dues: no longer deductible.

WHO CAN FILE ELECTRONICALLY

Generally, nearly anyone can make use of this new technological opportunity. This includes everyone who normally files an individual or joint income tax return using Form 1040EZ, 1040A, or 1040, along with all the most commonly used forms and schedules to be attached.

You can file electronically whether you have already paid your taxes through withholding, you expect to receive a refund or if you expect to owe more at the time when you file.

If you owe additional taxes at the time you file, you'll need to fill in Form 9282, the "Electronic Payment Voucher," and enclose it with your payment before April 17, 1995 (a weekend gives us two extra days to procrastinate, this year.)

DOWNLOADING IRS FORMS AND FILE FORMAT READERS

Most people have relied on public libraries and local post offices to stockpile the forms they need that aren't mailed to them by the IRS. Today, however, you can get virtually any IRS forms you want via the Internet.

But these forms are just that — forms. They are not directly readable, and in fact they're not intended to be used or filled in on screen. They're just a way to get a copy of the tax form you need

without running out to the library on a rainy night.

They're stored in a variety of graphic formats, so you must download some software to match the format you prefer - except for the PCL versions of the forms, which you can print directly on HP and compatible printers. Fortunately, the software to use on each of the formats is widely available on the Internet and a great value - free!

OTHER SOURCES OF INFORMATION ON ELECTRONIC FILING

If you are considering filing your taxes electronically, you may want to browse some sources of instructions, forms, advice and even Tax Law. Here is one of the best:

<http://www.best.com/~ftmexpat/html/taxsites.html>

This is an excellent guide to tax preparation resources on the Internet. It is maintained free of charge by Frank McNeil, who writes frequently about tax matters on the Internet. If you can't get through to this site, try one of the two places where it is usually mirrored:

<http://io.com/user/ftmexpat/html/taxsites.html>
<http://gopher.metronet.com:70/1/warble/frank>

This is a compendium of U.S. Income Tax Law and related information that you can - but probably won't - want to look through. It focuses heavily on tax codes and legal issues.

<http://io.com/user/ftmexpat/html/taxsites/uslaw.html>

"**Misc.taxes**" is the name of a Usenet newsgroup containing questions and more-or-less accurate answers on virtually any tax issue you can name. If you have a question, you can post to this newsgroup and expect a reasonably intelligent answer within 24 hours. "FedTax-L" is the listserve version of the same newsgroup. To subscribe, send your e-mail to LISTSERV@SHSU.BITNET and include the following message: "SUBSCRIBE FEDTAX-L first-name lastname." You might also find some useful material with "alt.accounting" and the various newsgroups that begin with "misc.invest.*"

Tax Digest is a weekly e-mail newsletter covering issues relevant to the individual taxpayer. Send your subscription e-mail to "TaxDigest@aol.com".

Send e-mail to "ftmexpat@best.com" for a list of very good information on tax laws and filing procedures.

Here's the step-by-step algorithm for turning in your taxes electronically:

- 1) Make sure your return is eligible.
- 2) Use IRS-compliant software to complete your 1040EZ, 1040 or 1040A with attached schedules.
- 3) Complete Form 8453-OL (on paper) and choose or decline the Direct Deposit option for your refund (if any).
- 4) Send your return to the "agent" of your choice: CompuServe, America Online or as an example, Global Financial Network, Inc., 729 North 22nd, Quincy, IL 62301.
- 5) Wait for your official confirmation.
- 6) Send in your signatures and related paperwork, including Form 8453-OL.
- 7) Wait for your refund (if any).

This process is entirely separate and unrelated from the kind of "electronic filing" that can take place if you let H&R Block or another of the IRS' 150,000 bona-fide "originating agents" do your taxes and transmit the results to the government. Your PC doesn't come into play in this process so don't worry about it.

Here are some places to download IRS forms right now:

ON THE WORLD WIDE WEB:

Get your forms at "<http://www.fedworld.gov>," the FedWorld WWW homepage. These forms come in PDF format, so to make use of them be sure to download a free copy of Adobe's Acrobat reader.

Point your browser at "http://www.scubed.com:8001/tax/fed/irs_pubs_list.html" for a wide selection of forms, publications and detailed instructions in a variety of formats.

VIA FTP:

If you log on to "<http://fwux.fedworld.gov/pub/irs/irs-pcl/irs-pcl.htm>," you'll find the IRS tax forms and related publications in PCL format.

Log on to "<http://fwux.fedworld.gov/pub/irs/irs-pdf/irs-pdf.htm>" to obtain the same information in PDF format.

Try "<http://fwux.fedworld.gov/pub/irs/irs-ps/irs-ps.htm>" to choose PS format versions of the same documents.

At "<http://fwux.fedworld.gov/pub/irs/irs-sgml/irs-sgml.htm>," you can download the information you want in SGML format.

Finally, log on to "<http://fwux.fedworld.gov/pub/irs/irs-utl/irs-utl.htm>" to view and use the IRS' Utility Library and obtain its informative Frequently Asked Questions form.

You can also use anonymous FTP to connect with "<ftp://fedworld.gov>" and find IRS forms and instructions in at least three major formats. If you go this route, here are the relevant directories to select:

[/files/irs/irs-pdf/](http://files/irs/irs-pdf/) (PDF format.)

[/files/irs/irs-pcl/](http://files/irs/irs-pcl/) (PCL format.)

[/files/irs/irs-ps/](http://files/irs/irs-ps/) (Postscript format.)

VIA TELNET:

Select "<telnet://fedworld.gov>" to connect and download IRS forms and instructions.

To obtain the Adobe Postscript reader: Download "<ftp://ftp.cs.wisc.edu/pub/ghost/aliaddin>." This is Ghostscript for PCs using DOS, Windows or OS/2.

To obtain the Adobe Acrobat (Portable Data Format) reader: Download a PC, Mac or UNIX version from "<ftp://ftp.adobe.com/pub/adobe/Applications/Acrobat>." The very same software is always available from many other Internet sites.

To obtain the Standard Generalized Markup Language reader: Download the software from "<http://io.com/user/ftmexpa/html/taxsites/formus/fmt#70>." This is the package that removes those obnoxious SGML tags in otherwise plain ASCII text.

To obtain the HP series II PCL software: Don't bother. Just download the files and print them directly through your HP or other PCL-compatible printer.

*Robert Moskowitz is a business consultant based in Woodland Hills, California, who writes frequently on productivity, office automation and technology. He is the president of the American Telecommuting Association (800) ATA-4YOU, a membership organization serving the needs of telecommuters and those who want to become telecommuters and is also the author of *The Small Business Computer Book - A Guide in Plain English*, available from Upstart Publishing Company at (800) 235-8866. ♦*

BOARDWATCH

List of BBS List Keepers

This listing comprises a list of those who compile and maintain lists of bulletin boards, either by topical category, or by some geographic area or definition - often by area code. The primary bulletin board system where the list can be downloaded electronically is also included.

| BBSLIST TOPIC | AUTHOR/EDITOR | CONTACT BBS | TELEPHONE |
|------------------------------------|----------------------------------|----------------------------|---------------|
| New Jersey BBS's | Scott Drake | T.E.R.N. BBS | (201)399-4772 |
| Connecticut AC 203 | Kevin Brook | Creative Edge BBS | (203)743-4044 |
| BBS With Handicapped Focus | Bill McGarry | Handicap News BBS | (203)926-6168 |
| Known Networks | Victor Laking | Generic BBS | (204)475-5199 |
| Manitoba Canada AC 204 | Victor Laking | Generic BBS | (204)475-5199 |
| West Washington AC 206 | Bob Dinsse/Nanook | Eskimo North' | (206)367-3837 |
| Tacoma Washington AC 206 | Richard Langford | AmoCat BBS | (206)566-1155 |
| Puget Sound Area AC 206 | Art Tomlin | Orion Station | (206)675-0565 |
| Kitsap County Washington | Michael Schuyler | Quicksilver BBS | (206)780-2011 |
| Modesto CA AC 209 | Chris Mitchell, "Gomba" | Anything Goes | (209)491-0782 |
| Central California AC 209 | Jack Porter/Madera UG | Zen Den Systems | (209)675-8436 |
| San Antonio TX AC 210 | Donna Murrell | Main Complex BBS | (210)658-8009 |
| Graphical User Interface BBS | David Shapiro | The Gooey (GUI) BBS | (212)876-5885 |
| 96 List - 9600-bps BBS | Ken Sukimoto | Downtown BBS | (213)484-0260 |
| Employment BBS's | George Smith | Executive Connection | (214)306-3393 |
| Dallas/Ft.Worth BBS List | Mark Elson/Mike Shockley | Blues Cafe | (214)638-1181 |
| Open Access UNIX Site List | Phil Eschallier | LGNP1 (login:BBS) | (215)348-9727 |
| Cleveland Area 216 | Jim Barry | Flip Flop | (216)951-9134 |
| Educational BBSs | Joe McIntosh | KSI Public BBS | (219)626-2150 |
| Educational and Indiana BBS | Joe McIntosh | KSI Public BBS | (219)626-2150 |
| Conservation/Nature BBS List | D. Wendling/JS Christianso | Coin of the Realm | (301)585-6697 |
| Ham/Amateur Radio BBS | Stan Staten | 3WINKS BBS | (301)590-9629 |
| Handicapped Issues BBS | Richard Barth | HEX BBS | (301)583-7357 |
| Desktop Publishing BBS | Frank Atlee | Infinite Perspective | (301)924-0398 |
| Delaware AC 302 | Vince Boehm/Dave Osburn | Talk Radio BBS | (302)429-7667 |
| Colorado AC 303/719 | Willis Morrow | Big Boy's BBS | (303)458-3832 |
| Cave Exploration BBSs | Douglas L. Moore II | The CatEye BBS | (304)592-3390 |
| South Florida Area 305/407 | Eric Thav | Silicon Beach BBS | (305)474-6512 |
| Southern California | Mike Hefferman | SOCAL Corner | (310)422-7942 |
| California AC 310 | Jim Walton | Illusions BBS | (310)804-3324 |
| Detroit Area 313 | Hors Mann | Tony's Corner | (313)754-1131 |
| St. Louis AC 314 | Beth Brooks | Fire Escape's Dir | (314)741-9505 |
| ASP BBS Member List | Richard Holler | The Road-House BBS | (317)784-2147 |
| Engineering Related BBS | Arthur Petrzekla | Computer Plumber | (319)337-6723 |
| Rhode Island Area 401 | Mike Labbe | Eagle's Nest | (401)732-5292 |
| Alberta AC 403 | Stephen Decarie | T-8000 | (403)246-4487 |
| Calgary Alberta AC 403 | Jeremy Birkett | The Quantum BBS | (403)252-5119 |
| Atlanta Area 404 | Online Atlanta Society | OASIS | (404)627-2662 |
| Atlanta Area 404 | Rodney Aloia | The INDEX System | (404)924-8472 |
| Oklahoma City AC 405 | John Burton | The SandBox | (405)737-9540 |
| Montana Area | Jay Michalik | Valley Light BBS | (406)273-6399 |
| Searchlight BBS Systems | Chad Payne | Montana MediaNet | (406)549-6325 |
| Orlando BBS List AC 407 | Lenny Lacuy | Infinite Space Onlin | (407)856-0021 |
| San Francisco Bay Area | Mark Shapiro | BABBA BBS | (408)946-8592 |
| Baltimore BBS Area 410 | David Fogle | Silver Streak BBS | (410)254-3400 |
| Pittsburgh AC 412 | Chas Stokes | Zuul's Catacombs | (412)264-9787 |
| National BBS List | DP McIntire/Beth Spotts | Ameriboard | (412)349-6862 |
| Milwaukee AC 414 | Mark G. | The Castle | (414)327-5085 |
| North America Nudist List | Patrick O'Brien | Natural Connection | (414)426-2110 |
| Toledo Ohio Area 419/313 | Ryck Zarick | Toledo's TBBs | (419)475-2241 |
| Arkansas Area 501 | Bob Underdown | The Blue & The Grey | (501)444-8420 |
| Louisville KY South IN | Tim Arnold | Dance of Shiva BBS | (502)893-6360 |
| Portland Oregon BBS | Lisa Gronke | DawGone Disgusted | (503)297-9145 |
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DIRECT DIAL

by Brian Gallagher

TIGER TEAM INFORMATION NETWORK

While Buddhist monks are by nature reclusive, there is a place online where you can reach them and they can reach each other, and where other practicing Buddhists gather tomes of information on the teachings of Buddha and his followers, the four line Tiger Team Buddhist Information Network, (510)268-0102, known as Cyber-Sangha to followers of the ancient religion.

The dictionary refers to Bud-dhism as teaching "...right living, right thinking, and self-denial will enable the soul to reach Nirvana, a divine state of release from earthly and bodily pain, sorrow, and desire." Logging on to this Wildcat! system located in Oakland, California even Buddha would be proud — it is thoughtfully laid out (right thinking), definitely a release from anything bodily (since online you are represented only electronically), and if right living could be construed to mean RIP graphics you're half way to that blissful state with just a phone call.

Perhaps the strongest area on this system is the conferences. For the 1,000 users and 350 paid subscribers to the BBS, there is BodhiNet, (connected to around 20 other systems around the world through Fidonet and started by Tiger Team), with 42 conferences concerning the various sects of Buddhism and other Asian religions as well as an Amnesty International area and others. Local conferences and Fidonet echoes branch out from strictly Buddhist areas with Sports Discussion, Classifieds/BBS Ads and AnitVirus/PC Security, but the most popular areas remain centered around Buddhism: Tiger Team Yak, Tibetan Buddhism, Asian Studies, Zen Buddhism and Scholarly Buddhism.



Gary Ray and Jeffrey Macko of the Tiger Team Buddhist Information

There are 5,400 Usenet newsgroups here, which Tiger Team gets through a PPP connection with an area ISP (Internet Service Provider). All of the conferences can be found under the forums icon with newsgroups bringing up the rear of the sizable listing. The most popular Usenet newsgroups are [alt.rell.gion.buddhism.tibetan](#), [alt.zen](#), [talk.religion.buddhism](#),

[ba.events](#), [alt.wildcat!](#). Traffic on the local conferences is somewhat sparse, but where else can you post a question only to and have it answered by a real, live monk or nun? However, be forewarned, don't expect queries to be answered right away, the monks seem to live by a time clock all their own.

File hounds will not be left out here either, there are 173 files areas available with 10,000 files from which to choose. They include Tibetan texts, Dharma Realm Translations, Buddhists Centers and Calendars, art from Zen Buddhists, Hindus and Indians, pictures of Eurasian countries and monasteries, sound bites from the Dalai Lama and chanting of Tibetan monks in the "Digital Dharma Talks" area, and standard files on computer security and encryption, IBM and Macintosh files, .WAV sound files, Star Trek files, standard utility programs and games.

The most popular downloads are Buddhist Center Listings, Tibetan and Zen Teachings, Tigerstats (caller and system statistics on Tiger Team) and games.

First online in June of 1992, the system began as a general hobby board with Gary Ray and Jeffrey

• TIGER TEAM INFORMATION NETWORK

• CyberCity BBSING IN GERMANY

• TRADERS' CONNECTION CLASSIFIED ADS ONLINE

• SBI LIST OF SELECT BBS ON THE INTERNET

Macko at the helm. The one-time college roommates set the system up on an XT computer with a 2400 baud modem and let the callers dictate the evolution of the board. "The user base steered the board towards Buddhism," Ray said, "and if we went in a direction they didn't like — they told us." Ray, who is a Buddhist, holds a degree in Asian Studies and is about to get a masters degree in Buddhist Studies, is largely responsible for the content of the system.

He has access to the libraries at Stanford University and the University of California at Berkeley, which he uses to scan books, many of them out of print, and post their contents to the board. Macko, on the other hand, is not a Buddhist, and up until recently was not even very computer savvy. All that has changed though, working with Ray on the BBS, (who initially taught him DOS), Macko started learning on his own by reading technical manuals and diligently working with software until he got it going. Now, Ray refers to him as a sort of computer "whiz."



Macko designed the RIP menus for the system, worked out the details for hubbing BodhiNet through Fidonet and is currently studying LINUX to prepare for the installation of an Internet box for their PPP connection. The Internet they are operating now is pretty nifty in itself however. Through an automated program utilizing the full functionality of an e-mail connection to the Internet, by simply clicking on an icon and following the directions on the screen, users can access FTP by Mail, Archie by Mail, Internet Lookup — (a WHOIS feature), an area to request the creation of a Usenet newsgroup and of course the ability to send regular e-mail messages.

A shopping area offers "Tricycle - The Buddhist Review," the largest independent Buddhist publication containing the latest in Buddhist news, interviews with the Dalai Lama and other related information and the "Samadhi Cushions Practice Supplies" catalog with general, zen and Tibetan books available in addition to books on Asian philosophy and religion, medicine, literature and art. Purchases can be done online using a MasterCard or Visa through a credit card verification program. A note to other sysops, since the system

has been taking credit cards online they have noticed a 50 percent increase in revenues.

Perhaps the biggest and best part of Tiger Team has simply to do with its functionality. While many RIP boards seem to be filled with quirks here or there — a suicide icon that is sure to lock up your machine and drop carrier the moment you press it, this BBS has no icon-bombs at all. And the configuration of the screens is tastefully done, wisely steering clear of icon-clutter so common on some systems trying to show you everything all at once. RIP enthusiast will be sure to enjoy this BBS.

Subscriptions to Tiger Team are \$40 per year for 90 minutes per day online time, and include a subscription to their newsletter "Tiger Tail" and a printed user's guide; an \$80 per year Charter membership includes the above and offers more online time per day and a Tiger Team t-shirt. A new addition to the Tiger Team crew is Jennifer Pennington, Special Events Coordinator for the BBS who organizes functions, outings and get-togethers for users of the system.

Tiger Team Buddhist Information Network; attn: Gary Ray, 1920 Francisco Street, STE 112, Berkeley, CA 94709; (510)540-6565 voice; (510)268-0102 BBS; info@tigerteam.org Internet e-mail. ♦

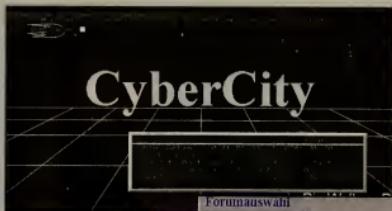
CyberCity - BBSING IN GERMANY

Dr. Klaus Langner of Aachen Germany is bringing Europe into the electronic age with his CyberCity BBS network run on software he wrote himself and reachable through ISDN connections from around the globe. The core system, CyberCity Aachen, 49-241-21130 analog; 49-241-21170 ISDN, Langner's personal board and the first for the network, has 4,200 called and accounts for the vast majority of users on the network.

First opened in 1986, the board began with one line, a 300 baud modem and ran on a CPM machine out of his house. Since then, it has matured to 24 lines, (20 with V.34 and 14.4 Kbps modems, three for ISDN connections and one X-25 line) each with its own machine, making it one of the largest systems in Germany. There is also a file server and six local log on machines, (which users have access to), all connected through a Novell network, now located in offices in the city of Aachen. Assisting Langner in operating this



Dr. Klaus Langner
CyberCity Aachen



burgeoning system are one part-time employee and four co-sysops, but it doesn't stop there.

After Klaus released his version of an offline mail reader, titled C N P (City

Network Protocol) last year, five other systems joined the CyberCity fold. All of the other systems were set up by CyberCity users and exchange mail with the main Aachen system: CyberCity Berlin, 49-30-396-8507 analog; CyberCity Dortmund, 49-231-52-2301 analog; 49-231-549-0171 ISDN; CyberCity Hamburg, 49-40-430-7251 analog; 49-40-431-88035 ISDN; CyberCity Köln, 49-221-420-1280 analog; 49-221-941-5027 ISDN; CyberCity München, 49-89-1239-2525 analog; 49-89-1216-0845 ISDN. All of the boards look virtually identical and all support RIP graphics.

The additional five systems have already added another 800 subscribers to the network bringing the grand total of calls placed to the system - over the life of the system, to over 612,000. What these callers do online is similar to what we do here in the states. File downloads are popular with IBM files being the most sought after. Langner's Aachen system has over 150,000 files available from nine hard disks and seven CD ROMs for a total of over 12 gigabytes. Online forums are also a hit with IBM/PC again the most popular and, a Tea Room area where users talk about "God and the world and everything," Langner said.

Thanks to an omnipresent "profile" icon found in forum areas, it is always easy to take a quick look at just how many downloads or uploads (if applicable) there have been to a particular area, as well as the time spent in the area per day. Under the "sysinfo" icon from the main menu, callers can find out most anything about system statistics. The "modem" icon reveals how users connect to the system: 91.64 percent contact the system with modems, of those 76.4 percent are running at 14.4 Kbps (the system does support 28.8 Kbps), eight percent connect through one of the three ISDN lines, and less than one percent call in through the single X-25 line.

Online chat garners a crowd as well. There were consistently five or six individuals (sometimes 10 or 15), discussing everything about anything in this online arena, and yes, it is all in German. However, upon entering the chat area and asking if anyone there spoke (or could write) English, a user said, "we all speak a little." There were a few other notes

about learning to speak German, how I really should, and maybe a posting about stupid Americans, but I really couldn't tell, it was in German. But the posts that I could read all had one thing in common, they like their BBS - a lot, "the most finest bb of germany," one user wrote.

CyberCity users have 400 Usenet newsgroups to choose from with alt., rec., eunet., sci., comp., clari. and de. (German) prefixes all represented giving callers a good variety of the Internet forums available. And they are easy to get to, easy to read and easy to post to.

The 50 or so local forums are similarly accessible and quite popular. A chat user informed me the environment forum was really quite good, but to tell you the truth I couldn't tell you one way or the other - that language barrier once again. There are settings for German and English when you log on, but that does little more than give menus that are comprehensible.

Ripped up quite well, there is a RIP gallery on the system, but when I viewed their artwork with RIPterm 2.0 or the RIP support found in Qmodem, I found the pictures looked - well different, depending upon which terminal program I was using. Sometimes half of an image would come to my screen, and when the second half started appearing the first half would fade away. Other times only half, or a smaller portion of an image would arrive, and once in a while I couldn't get out of a picture and back to a menu without disconnecting first. But overall, the RIP support worked fairly well.



The BBS software, "CyberCity Electronic Mail System," and interfaces between the BBS software and other commercial products, Langner has dubbed "airware," since he writes most of it on a laptop while flying to various cities around Europe for his job with ELSA, a European manufacturer of modems and graphic accelerator boards. An interesting piece of airware he has just completed provides a personal fax number for each of his users, he calls it FaxBox and it is available to all Executive Users on the system.

Someone wishing to fax a user will call the fax machine at the board and enter a five digit identification number of that user. From there the system converts the fax to a PCX file and e-mails it to that user. The technical solution to FaxBox is based on a single ISDN line, a "sophisticated" ISDN terminal adapter (digital modem for ISDN applications), designed

by ELSA, and a CAPI (ISDN Common Application Interface) based automatic fax document dispatcher software titled GOFAX.

Another new addition to the system is interactive Internet services such as ftp, gopher, whois and telnet, utilizing BBSNet from Murkworks in Potsdam, New York. Installed in December of 1994 on a 64 Kbps leased line with data compression, I called CyberCity Aachen with our new ISDN line set for a 56K asynchronous connection and telnetted out from there back to the Boardwatch offices in Littleton, Colorado. Traveling half way around the globe and back again through the wires did slow things down a bit, but it was pretty impressive and worked flawlessly.

The web is coming to CyberCity BBSs, as a matter of fact, web browsing is the next thing on Langner's list for airware projects. Langner, like most informed cybernauts in America, know the web is the place to be.

CyberCity Software GmbH, attn: Klaus Langner, Marienplatz 5, D-52064 Aachen; 011-49-241-21130 analog BBS; 011-49-241-21170 ISDN BBS; klaus_langner@cybercity.de Internet e-mail. ♦

TRADERS' CONNECTION

There has always been a plenitude of individuals looking for the best deals wherever they can find them. They can be found cruising garage sales, fumbling around flea markets, and most certainly scanning the classified ads of their favorite paper(s) for a "real find." Traders' Connection, (317)359-5199, has been giving savvy bargain hunters an edge over their competition for over a decade by posting classified advertisements from various publications, sometimes before they are even out on the newsstand.



*Carson Hanrahan and Steven Edsall of
The Trader's Connection*

In operation since February of 1979, the system first opened on a NCR mainframe computer with in-house software and some specialized hardware designed by Naval avionics engineers specifically for the board. At the time, the owners of "The Trader," a classified advertising newspaper in Indianapolis felt that electronic access would be the way of

the future - so they set the system up at the newspaper offices.

Initially free, the system garnered 1,000 users by the early 1980s and migrated to a PC platform in 1986 when the demands on the newspapers mainframe from the BBS became too great. The in-house software was modified for the PC platform, since at the time there was no multi-node BBS software available commercially.



*Trader's Connection
Equipment Room*

In 1989, the system expanded to include SIGs - or Special Interest Groups, for messaging and conversation, downloadable files and still more newspapers classified advertising sections broadening the scope of the board and giving it the largest classified advertising database in the world. There are 22 newspapers classified advertising sections to browse from all over the United States and Canada. And browse they do. Today, the Traders' Connection has 102 lines and it is still possible to get a busy signal - especially if you are calling at a time (usually nights) when a major classified ad database from a newspaper is just going online.

When searching one or all of these publications (City/State or Global options), callers have the option of placing ads, altering ads they have already placed, cancelling their ads, looking at the ads or subscribing to the publication. In looking through the ads database, callers can do keyword searches with boolean terms, i.e. "AND" and "OR," in addition to specifying the lower and upper limits of the price they are willing to pay and current and past advertisements.

I did a keyword search using "SUPERBEE" with a price between \$400 and \$14,000 and actually found three of these very rare muscle cars from hell. When I went to look at just how much they wanted for one of these beasts, I found that it would cost me to get that information and the telephone number of the owner. I had to purchase the particular issue which held the all important contact and pricing information, fortunately the price wasn't bad, just 99 cents for a U.S. publication and a \$1.00 for a Canadian publication, and I did find the car I was looking for, but it is good to know that when you purchase a subscription to the system, you aren't actually getting access to all that information with that low subscription fee.



Trader's Connection Team

Steven Edsall, CEO of The Trader, said most of the 13,000 paid subscribers the system caters to originally subscribed because of the extensive classified advertising database. And many of these callers are collectors, with a surprising number of European users looking for American memorabilia such as muscle cars and car parts, Elvis memorabilia and the gambit of 1950s Americana items. For many of the Eastern European users, Edsall said, it is often cheaper and easier for them to purchase an automobile in the United States and have it shipped to their homeland, than it is for them to purchase a vehicle there.

Carson Hanrahan, sysop of the BBS since 1992, said the system is slowly migrating away from solely a repository for classified ads towards a more generalized system. There are six gigabytes of files to be found in the Shareware Test Laboratory - all in a live file base, (there are no CD ROMs), with no duplicate files to be found. Hanrahan said the 25 employees employed by the BBS - yes 25 just for the BBS, are careful to weed out duplicate files, keep all versions of programs on the system up to date and be sure there are no "Trojan Horse" files, which may get inside of your machine and wreak havoc later on. Many of the files come with full reviews of the software within them and there are also reviews of software which users have submitted to the system for others to get an idea of what a program can and cannot do and just how well it can do it.

Of the files downloaded, IBM files in general, (both DOS and Windows), remain the most popular, but there has been a very strong showing among Macintosh fans lately - looking through the Connection's well-stocked area for these machines.

Gamers won't be left out when they log on here either, there are over 70 multiplayer games online. Chat also seems to be a favorite for the entertainment minded and often fills up with numerous callers in the wee hours of the night (or morning).

For those wishing not to peruse the plethora of classified ads but are looking for something to read, the system carries 45

other publications - many of them computer magazines, including Boardwatch and the Sports Collector. There is also a King James Bible to be found, and a number of historical documents: Declaration of Independence, U.S. Constitution, Declaration of Human Rights, Mayflower Compact, Magna Carta, Emancipation Proclamation and Gettysburg Address.

During the day, bargain hunters browsing the classified ads databases are prevalent on the board. At night, however, the system has been turning more towards the entertainment side of things with chat emerging as a popular pastime - that is of course, when one of the big paper's classified ads aren't going online.

Ten years ago, Edsall said, 60 percent of the users on the board were calling in from Commodore 64 computers. Today,

there are still 20 to 25 percent of users plugging along with antiquated equipment and 300, 1200 and 2400 baud modems. But none of them seem to care much, the entirely text-based system accommodates their needs and then some.

By typing GO by itself at any prompt while on the system, users will receive a list of all the "GO" options available to them on the system. They include jumps to newspapers, periodicals and special interest groups, with over 50 options to choose from.

The Traders' Connection might not have the graphical wizardry of many boards, but it still has much to offer to the average bbser. For more information about Traders' Connection you can write them at 5610 E. Washington St. Indianapolis, IN. 46219. You can reach the Traders' Connection by phone at (317)322-2000 for technical support or questions. They are also available on the internet at sysop@trader.com and [telnet:trader.com](telnet://trader.com). ♦

198 SELECT BULLETIN BOARDS ON THE INTERNET

The definitive term seems to be "convergence." We're not sure what the buzzword encompasses, but it alludes to the fact that bulletin boards, commercial services, and the Internet seem to be moving toward a kind of blending of technologies and connections that may dramatically alter the way we operate online. We've touted the Internet as a common electronic backplane for online services for several years. But making the connection offers challenges in available software tools and in the economics of connectivity. One of the questions that comes up regards how many existing bulletin board systems are actually connected to the Internet. Even there, the term "connected" is ethereal. A large percentage of existing bulletin boards now offer e-mail connectivity to the Internet allowing their callers to correspond with callers on large commercial services, other bulletin boards, and Universities. Many also carry selected USENET Newsgroups.



Richard Mark (L) and Paul Martin of Dragon's Keep BBS

But the real frontier is in full Internet Protocol connectivity that allows BBS callers to connect to other services, and allows those who already have Internet connectivity to connect to bulletin boards via the network - thus bypassing long distance charges. How many bulletin boards currently sport such connectivity? It is difficult to say and it changes almost hourly as this IS the frontier and many bulletin board operators are struggling with this both technically and financially right now. Further, comprehensive lists of who has made the trip are simply unavailable. In the past, BBS lists have been geographically a local sport, usually corresponding to the local calling area. On the Internet, "local" means here on planet.

Richard Mark of Gainesville Florida has somewhat ambitiously set out to amass a listing of what we think of as standard privately run "bulletin boards" with Internet connectivity. He's sought out all he could find and distributed a text file calling for BBS operators who make the trip to contact him to add themselves to the list. The result is a listing of over 200 systems he distributes as the Select Bulletin Boards on the Internet list or SBI. He makes it available in the file **SBlmmmy.ZIP** where mm contains the month and yy contains the year. He has most generously allowed us to publish the **SBI0395.ZIP** listing in this issue of Boardwatch Magazine.

Mr. Mark himself operates an impressive BBS as a hobby. Professionally, he

runs the computer network for the State Attorney General's office in Florida. But with his partner, Paul Martin, he started a BBS titled Dragon's Keep in 1987 using a fantasy/role playing theme and Galacticomm's Major BBS software. Today, in addition to featuring a lot of "dost" and "thous" in the vernacular text of the system, Dragon's Keep also features 58 lines, 75 local forums, and about 50,000 shareware files on 7 GB of CD-ROM storage and 1 GB of hard drive space. The system has developed into popular chat and multiplayer game resource.

It is also quite connected to the Internet. You can telnet to dkeep.com or 198.79.54.10. Using QmodemPro for Windows and COMT, we connected to it much as we would by dialup - but without the long distance charges. At the main menu, if you enter GO SBI, you will find yourself in a file area with the BBS list in various formats freely available for download.

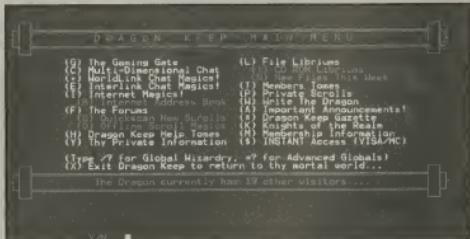
(1) The Gemini Getaway
(2) WorldLink Chat
(3) The Dragon
(4) Internet Magics
(5) The Forums
(6) The Falcon Home Page
(7) Dragon Keep Home Page
(8) The Dragon
(9) E-Mail for Global
(10) E-Mail Dragon cur
The Dragon cur

The real reason Mark originally started assembling the list was to create a menu of bulletin boards for his callers so that they could connect to other bulletin boards around the country by simply selecting them from a menu. And

he has a very easy to use menu to do just that. We were surprised to find the Boardwatch BBS listed on it.

The system is run as a hobby, but they do charge for access to most of it aside from access to the free SBI list. Callers purchase credits at the rate of \$1 for 10,000 credits. Credits are consumed at the rate of 60 credits per minute in the local areas of the BBS, and 120 credits per minute in the Internet areas. This works out to about **\$0.36** per hour for local access and **\$0.72** per hour for Internet access - just enough to generate the **\$50,000-\$60,000** per year it takes to keep Dragon Keep up and running and adding new features. Mark and Martin have built a substantial hobby bulletin board system in this way that is self-supporting and considered quite a community resource in the Gainesville area.

The SBI list is of course also available by internet. A World Wide Web page is provided at <http://dkeep.com/sbi.htm>. The files are also available by FTP from [dkunix.dkeep.com](ftp://dkunix.dkeep.com) in the subdirectory <pub/sbi>. Finally, you can use the FINGER program to find out more about the list by entering `FINGER sbi@dkeep.com`. And sysops who want to be listed can finger `sbi-sysop@dkeep.com`. We found the list detailed, informative, and of no small interest. According to Mark, it is in no way comprehensive and he strongly suspects



there are many more bulletin boards on the net but not yet listed. But SBI represents a strong effort at a difficult task. The Dragon's Keep, PO Box 12077, Gainesville, FL 32604; (904)372-0735 voice; (904)375-3500 BBS; telnet://dkeep.com; http://dkeep.com/sbi.htm.

Select BBS On The Internet

Richard Mark — Dragon's Keep BBS (904) 375-3500

| TITLE | DOMAIN/IP | TELEPHONE | SOFTWARE |
|--|------------------------|---------------|--------------|
| Access Nevada | spillway.accessnv.com | | MBBS |
| ACE InfoSystems | aceinfo.com | 209-833-0291 | MBBS |
| AdeptXBBS | 19.227.57.1 | 407-477-6310 | AdeptXBBS |
| Advanced Data Services BBS (ADS BBS) | bbs.adsinc.com | 301-695-9116 | MBBS |
| After Hours BBS | ahbgs.com | | MBBS |
| Alien's SpaceShip BBS | Aliens.com | 616-275-7000 | MBBS |
| Amateur Radio INTERNET BBS | wb3fvl.sed.csc.com | 410-661-2475 | Unix |
| AOP BBS | 198.232.144.101 | 703-264-1750 | PCBoard |
| Appraisal Professional Online | apo.com | 703-478-5502 | MBBS |
| Aquila BBS | aquila.com | 708-820-8344 | PCBoard |
| Atlantis BBS | atlantis-bbs.com | 408-377-8510 | MBBS |
| Austin Clubhouse BBS | club.fc.net | 512-302-0675 | Custom |
| Barney's Rubble | rubble.fidouk.org | | Maximus |
| Barter America BBS | barter-usa.com | | MBBS |
| Black Gold BBS | bgbbbs.com | 918-272-7779 | PCBoard |
| Boardwatch Magazine BBS | boardwatch.com | 303-973-4222 | TBBS |
| Brainstorm BBS | bstorm.bgs.com | | Cnet Pro |
| Bryant Software | bryant.com | 303-733-0773 | MBBS |
| Canned Ham Bulletin Board | anarky.tch.org | | Citadel |
| CCS World | ccsnet.com | | MBBS |
| CHANNEL 1 (R) | bbs.channel1.com | 617-349-1300 | PCBoard |
| Chrislie's Internet Matchmaker | bounced.email.net | | Custom |
| Closer To Home BBS | close2.brinsnet.org.au | | |
| Colossus Box | colossus.com | 512-707-9744 | Cnet Pro |
| COMM Port OS/2 | juge.com | 713-980-9671 | Maximus |
| ComPart BBS | compart.fi | 90.506.3329 | |
| Compu-Plane | 198.68.17.57 | | |
| ComputerLink Online, Inc. | rmbbs.computulink.com | 416-233-5410 | Multi-Net |
| Con-X-Tion | conxtion.com | | MBBS |
| Cougar's Lair BBS | cougar.sols.com | 516-475-6406 | MBBS |
| Country Online | online.music-city.com | 615-256-1118 | MBBS |
| CRIS (Concentric Research Corp) | cris.com | 800-991-4227 | MBBS |
| Crystal Quill | cq.cqi.com | 703-241-7100 | MBBS |
| Cyber/Chat! | cybercom.com | 908-506-0610 | MBBS |
| Cyberspace BBS | cyberspace.gmet.com | 616-454-7800 | MBBS |
| CyberSpace7 BBS | cyberspace7.pvt.net | | MBBS |
| Cyberverse | cyberverse.com | | Custom |
| Datacom | datacom.net | 504-275-2605 | PCBoard |
| deltaComm Online | 204.132.41.2 | 919-481-9399 | PCBoard |
| Digital Concepts BBS | dconcepts.com | 602-292-0065 | MBBS |
| Digitec Online | saturn.digitec.co.za | 24.11.4762008 | PCBoard |
| Doctor's Office BBS / Falken Support BBS | docs.dgsons.com | 703-734-2860 | Falken |
| Dragon Keep International | dkkeep.com | 904-374-3500 | MBBS |
| Dreamscape BBS | dreamscape.com | 315-458-3482 | MBBS |
| DSC BBS / Volcenet (Datamax/Satalink Con | dsc.volcenet.com | 215-443-7390 | PCBoard |
| DSP Information & Entertainment | dsp.com | 510-865-9778 | MBBS |
| Eager Beaver Computers MBBS | beaver.com | | MBBS |
| Eden BBS | edenbbs.com | 714-548-1900 | MBBS |
| Edex | rainbow.galviz.co.uk | | MBBS |
| Elysian Fields | castle.elysian.net | 316-267-5125 | MBBS |
| Empty Spaces BBS | esbbs.wariat.org | | MBBS |
| Entertainment and Consumers Network | ecn.ecn.com | 301-204-6007 | MBBS |
| Escape | Escape.com | 212-888-8212 | Unix |
| eSoft Support and Demo BBS | esoft.com | 303-699-8222 | TBBS |
| Europe / Eurolink! | 193.92.253.70 | | MBBS |
| EveryBuddy's BBS | busstop.com | 603-668-2983 | MBBS |
| Exchange BBS | exchange.org | | Custom |
| Exec Talk BBS | bbs.mpcos.com | 407-729-1463 | Custom |
| ExecPC | bbs.execpc.com | 414-789-4210 | Custom |
| EXIT 13 | vegas.roc.servtech.com | | Renegade |
| Eye Contact BBS | bbs.eyecom.com | 415-703-8200 | MBBS |
| EZLink Internet Access | ezlink.com | | Unix |
| EZNet | eznetny.com | 516-354-5353 | Novalink Pro |

Select BBS On The Internet

| TITLE | DOMAIN/IP | TELEPHONE | SOFTWARE |
|--|------------------------|-----------------|----------------|
| Final Frontier BBS | ffbbbs.seanet.com | | Falken |
| FIOaTing PANReAs | sfpg.goomm.com | | MBBS |
| FOUR.net | FOUR.net | 508-291-1774 | Unix |
| G.L.O.B.I.E. | net1.intserv.com | 609-484-0889 | MBBS |
| G.O.D. | acadh2.isisnet.com | | Unix |
| Galacticomm DEMO System | gcomm.com | 305-792-7541 | MBBS |
| Game Power Headquarters BBS | 199.05.57.7 | | MBBS |
| GarRBaGe DuMP BBS | 199.190.74.2 | 602-331-1112 | MBBS |
| Gateway Online | bbs.gatecom.com | 313-291-6661 | MBBS |
| Global InfoNet | california.com | | MBBS |
| GRAFIX | grafix.com | 516-689-2853 | Bulletron-OS/2 |
| Green and Yellow | greenandyellow.btm.com | | |
| Hai 9000 | hai9k.com | 313-663-4173 | MBBS |
| Hellas On-Line | hellas.hol.forthnet.gr | | |
| Hi-Tech's Place | htp.com | | |
| High Society | hs.wisenet.com | 305-473-5525 | MBBS |
| IACC ONLINE BBS | iacc.housing.umich.edu | 313-763-7225 | TBBS |
| Idaho Interactive BBS | 199.190.75.2 | 208-345-4987 | MBBS |
| InfNet=81 | shakti.txinfinet.com | 512-462-0633 | FirstClass |
| Infinite Loop BBS | 155.64.60.31 | | |
| Infinite Space Online | 204.227.13.21 | 407-856-0021 | MBBS |
| InfoNet (Information Superhighways Limit | infonet.isl.net | 507-281-9299 | MBBS |
| InfoPort | infoport.com | 303-429-0291 | Novalink Pro |
| Instant Access | instbbs.camba.com | 908-888-3959 | PCBoard |
| Intercom Online | InterCom.com | 201-434-8811 | Custom |
| Interfudges BBS | 204.91.106.4 | | MBBS |
| IONX | ionx.com | | MBBS |
| IPlay On-Line | iplay.interplay.com | n/a | MBBS |
| Jaguar BBS | jaguar.pue.udlap.mx | n/a | EBBS |
| Janis II - Tokyo | asianet.net | 81.3.3252.7224 | PCBoard |
| KBBBS Los Angeles | 204.96.25.7 | 818-886-0972 | MBBS |
| Kingston Online Services | 199.246.2.200 | 613-544-6448 | MBBS |
| LaserBase Communications | laserbase.com | 512-441-5701 | Cnet Pro |
| LeClub BBS | lia.infolink.co.za | +27-11.315.3477 | PCBoard |
| Liberty BBS | liberty.com | 213-732-2300 | MBBS |
| Lifestyle Online | 166.82.150.22 | 516-689-5390 | MBBS |
| LIFESTYLE ONLINE | lifestyle.com | 516-689-5390 | Bulletron-OS/2 |
| Liquid Sky BBS | liquidsky.com | 303-443-1692 | MBBS |
| Livewire | 198.53.239.3 | 613-746-2001 | MBBS |
| Logic Circuit | Logicom.com | | MBBS |
| LOIS: The Link Online in Santa Maria | lois.org | 805-928-6969 | MOO |
| Magnus Online | online.magnus1.com | 410-893-4786 | Unix |
| Maloca BBS Toronto | bbs.maloca.com | 905-625-0606 | MBBS |
| Maloka BBS Warsaw | bbs.maloka.waw.pl | 48.2.622.0202 | MBBS |
| Meeting House BBS | tmh.bbsnet.com | 401-848-2200 | MBBS |
| Metro On-Line | 204.96.9.2 | 212-876-3031 | MBBS |
| Metro Online BBS | nycmetrom.com | | MBBS |
| Metropolii / StarPort BBS | unix.mpoli.fl | +358.0.61500028 | PCBoard |
| MHVnet | mhv.net | | Unix |
| MindVox | phantom.com | | Custom |
| Mnematics Videotex | vtb.mne.com | 914-365-0180 | Custom |
| Multi-Comm Las Vegas | mcomm.mclv.net | 702-362-9224 | MBBS |
| Multiverse | telnet.multiverse.com | 216-664-6776 | MBBS |
| NandoNet | camelot.nando.net | | MBBS |
| Nasty Playmates | np1.com | 407-374-2627 | MBBS |
| Needful Things BBS | 199.221.95.12 | | MBBS |
| NET-LINK ONLINE | net-link.com | 415-456-4567 | PCBoard |
| NETIS | bbs.netis.com | 603-432-2517 | Wildcat |
| New Jersey Computer Connection | pluto.njcc.com | 609-895-0398 | Wildcat |
| Nucleus Information Service | nis.nucleus.com | 403-531-9353 | MBBS |
| Odyssey | odyssey.ody.com | 512-887-0787 | Custom |
| On-Line Entertainment | connect.on-line.co.uk | | Custom |
| Online Computer Distribution | MAIN.ONCOMDIS.ON.ZA | 705-749-2345 | MBBS |
| Online Data Systems | ods.net | 414-761-5120 | MBBS |
| Online Montgomery | 204.96.29.2 | | MBBS |
| Online Orlando | oo.com | 407-647-6461 | Cnet Pro |
| ONline WEcome | bbs.onwe.co.za | +27-11.462.1130 | PCBoard |
| Pacific Horizons | pacific.seanet.com | | Falken |

Select BBS On The Internet

| TITLE | DOMAIN/IP | TELEPHONE | SOFTWARE |
|---|----------------------|--------------|----------------|
| Pacifier Online Data Service (P.O.D.S.) | pods.pacifier.com | 360-693-0325 | TBBS |
| Paradise Play Line BBS | pplinet.com | 713-597-4000 | MBBS |
| PC Genius | 158.182.6.137 | | Remote |
| Access | | | |
| PENN-COMM BBS | mailer.pennet.com | 412-439-2376 | MBBS |
| Pennsylvania Oneline | paonline.com | 717-657-8699 | TBBS |
| Pics On-Line BBS | bbs.picls.com | 609-753-2540 | PCBoard |
| Point Blank | pointblank.com | 516-367-7200 | MBBS |
| Prolink | 204.95.170.95 | | MBBS |
| Promised Land | tpl.wis.com | | MBBS |
| Prostar Plus Information Network | prostar.com | | MBBS |
| Proton Palace | proton.com | 613-829-0909 | Cnet Pro |
| Public Data Network | 198.68.7.2 | | MBBS |
| Rain Forest Systems, Inc (RFSI) | 204.96.24.10 | | MBBS |
| RCI (Ripco Communications Inc) | foley.ripco.com | 312-665-0065 | Unix |
| Revolution! Online Services | revolution.com | | |
| Rock Garden | garden.hvs.com | 602-234-3737 | MBBS |
| Rock Pile BBS | rockpile.com | 201-941-7778 | MBBS |
| RockonLine | magic.webb.com | 212-647-8669 | MBBS |
| S & H Computer Systems BBS | sandh.com | | MBBS |
| Salt Air BBS | 199.67.41.252 | 801-261-8976 | PCBoard |
| SIO Support BBS | 199.248.240.2 | | PCBoard |
| Smurph Land BBS | smurph.com | 618-345-5243 | MBBS |
| Software Creations | swccbs.com | 508-368-7036 | PCBoard |
| Spider Island BBS | spiderisland.com | | Telefederer |
| Starship II BBS | starship.com | 201-985-1485 | TBBS |
| Starship Sirius | sirius.america.com | 904-254-0911 | MBBS |
| Sun.One | news.jou.ufl.edu | 904-846-2000 | MBBS |
| Superlink | bbs.superlink.net | 908-828-0999 | Custom |
| Synergy Entertainment Network (SEN) | sen.com | 414-486-2400 | MBBS |
| Synergy Online Communications (SOC) | bbs.soc.com | 201-331-1797 | PCBoard |
| Techlands BBS | 199.67.37.132 | 305-977-0098 | Wildcat |
| The Annex | annex.com | 818-779-5600 | MBBS |
| The Castle BBS | caslebbs.com | 818-985-6075 | MBBS |
| The Connection BBS | connection.com | 905-882-8161 | MBBS |
| The Crystal Ball BBS | theball.filishop.com | | MBBS |
| The CyberDen | cyberden.com | 415-472-5527 | FirstClass |
| The English Palace | palace.com | 908-739-1755 | MBBS |
| The File Bank BBS | bbs.tif.com | 619-728-4318 | PCBoard |
| The Flower Link BBS | flowerlink.com | 717-270-2964 | MBBS |
| The Game Master | gm.gamemaster.qc.ca | | MBBS |
| The Graphics Alternative | tgax.com | 510-524-2780 | PCBoard |
| The Hole in the Wall | holowall.sos.net | | Wildcat |
| The Kobayashi Alternative BBS | tka.com | 207-784-2130 | CNet Pro |
| The Male Forum | mforum.com | 516-689-0286 | Bulletron-OS/2 |
| The Modem Nation | bbs.modernnation.com | 216-498-4246 | MBBS |
| The Newtonian BBS | newton.com | | PowerBBS |
| The Power Exchange | tpe.com | 703-749-9150 | MBBS |
| The PressRoom | pressroom.com | | NovaLink Pro |
| The Spring Guide | spring.com | 512-302-4000 | Unix |
| The Virtual Gatway | vgateaway.com | 904-376-6601 | MBBS |
| The WELL | well.sf.ca.us | | Custom |
| Theporch BBS | bbs.theporch.com | | Waffle |
| TnT Online | TnTonline.com | 813-337-5999 | MBBS |
| Toledo's TBOSS | toltribe.com | | TBBS |
| Tranquility Base | 199.3.234.248 | | |
| Trinbet | 199.2.128.3 | | |
| Trilogy On-Line Service (tm) | trilogy.net | 201-439-1468 | MBBS |
| Twinturbo Demo System | twinturbo.aits.net | | MBBS |
| VIA*Net | 165.247.47.7 | 915-543-6565 | OmniBoard |
| West Coast Online BBS | bbs.calon.com | 707-586-5250 | MBBS |
| Wingham Online | wingham.com | 519-357-3615 | MBBS |
| Wireworks Christian & Community Network | wireworks.com | 615-227-3220 | Novalink Pro |
| Women's Wire | wwire.net | | FirstClass |
| World Data Network BBS | wdn.com | 703-620-8900 | PCBoard |
| WorldCHAT BBS | bbs.wchat.on.ca | 905-637-1827 | MBBS |
| WorldWorks Symposium | worldworks.com | 310-312-3370 | NovaLink |
| Zagreb | zagreb.gcomm.com | | MBBS |

Clark Development Presents...

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Prospector Inn Resort, Park City, Utah

September 21 - 24, 1995

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Friday & Saturday Afternoon

and Evening & Sunday Morning

Session rooms will be open for vendor demonstrations, birds of a feather meetings, and one-on-one hands on training with each other and the programming and tech support teams from Clark Development. Or you can enjoy the many activities that the Park City area has to offer, including golfing, hiking, mountain bike riding, motorcycle/ATV riding, horseback riding, go for a hot air balloon ride or sled down the mountain on the Alpine Slide!

**For more information or to register for the
1995 PCBoard / Online Communications Conference**



Clark Development Company, Inc.
3950 South 700 East, Suite 303, Murray, Utah 84107
Phone: 800-356-1686 or 801-261-1686
BBS: 801-261-8976 **Telnet:** 199.67.41.2
Fax: 801-261-8987 **Email:** sales@saltair.com

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PCBoard v15.21

Our competition hopes you don't read this...

Don't be fooled by marketing gimmicks and phony feature comparisons that include costly add-on's but neglect to include them in the advertised price. Look at the facts. No other BBS software gives you as much functionality for one low price as PCBoard. Whether you are starting a new BBS or expanding an existing system, there has never been a better time to take a look at PCBoard. Find out for yourself why

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Comparison Guide

Before you invest in BBS software, use this chart to compare PCBoard with the competition. Just fill in the column to the right with the cost the other vendors charge for each listed feature (if they even offer a similar feature), then add up the charges to find out how much money you will save with PCBoard BBS Software.

Find out how much each feature cost. You may not need this much power and functionality today, but tomorrow you will!

| Feature | PCBoard | Others | Feature | PCBoard | Others |
|---|-----------|--------|---|-----------|-------------------|
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| Fidonet Mailer/Tosser Transparent to Callers | Included! | | Multi-port Support (Intelligent & Standard) | Included! | |
| Built-in QWK Mail No Door Required | Included! | | Local & Network Logins from any DOS network | Included! | |
| Credit Accounting in Money or Credits | Included! | | Windows E-Mail Client for Local & LAN Users | Included! | |
| Powerful & Easy Programming Language | Included! | | Automated Rules-Based File Maintenance | Included! | |
| dBASE III File Access (database and index files) | Included! | | Up to 2 Billion Registered Users | Included! | |
| Multi-language Support (2 byte & reverse printing) | Included! | | Up to 16 Nodes per PC with DV or OS/2 | Included! | |
| ASCII, ANSI and RISPScript Graphics Support | Included! | | Full DOOR Support on the Same PC | Included! | |
| User Definable Menu's (Stacked or Hot Keys) | Included! | | Competitive Upgrades & Conversion Utilities | Included! | |
| Multi-Channel CHAT Up to 255 Channels | Included! | | Free Software Upgrades for a Full Year! | Included! | |
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| | | | Total Cost! PCBoard 2 Nodes with PPLC | \$2000 | \$2000 |



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The BIG List



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Jezebel's Parlour BBS (201)927-2932 Flanders, New Jersey since 04/92. Sysop: Beverly Delisa. Using TBBX 2.2 with 12 lines on MS-DOS with 3724 MB storage. US Robotics at 19200 bps. \$50 Annual fee. Over 7 gigabytes of files, including adult graphics. New in-house created GIF files added each week. Online games and databases, user to user chat, conference areas, and adult matching. The BBS with the feminine touch.

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Barter America BBS (206)770-2364 Puyallup, Washington since 02/91. Sysop: Douglas Jones. Using MajorBBS 6.25 with 14 lines on MS-DOS with 500 MB storage. Hayes at 14400 bps. No fee. Internet access IP address 192.207.47.72. We are running both (WorldLink and Chatlink systems). We support Internet mail and all newgroups. We accept Visa and Master cards plus one can now write a check on-line. \$10.00 membership fee Try the gameconnect!

T-Shirts Online (207)865-1806 Freeport, Maine since 06/94. Sysop: Mike DeVaudreuil. Using PCBoard 15.1 with 1 line on MS-DOS with 540 MB storage. US Robotics at 14400 bps. No fee. Upload your favorite graphic file and we'll custom print it on a high quality t-shirt and mail it to you. High resolution, full color pictures. If you can see it on your computer screen, we can put it on a t-shirt.

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The Anarchist's BBS (214)289-8328 Dallas, Texas since 06/93. Sysop: Alan Bradshaw. Using MajorBBS 6.2 with 12 lines on MS-DOS with 2500 MB storage. US Robotics at 28800 bps. No fee. Categories include: bombs, computer hacking, drugs, fake ID, firearms, fraud and con games, investigative techniques, locksmithing, phone phreaking, political, revenge, sex, surveillance, and survival. Encrypted email. No ID verification.

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ComChat Online Services (218)847-8340 Detroit Lakes, Minnesota since 11/93. Sysop: David W. Johnston. Using MajorBBS 6.2 with 60 lines on MS-DOS with 210 MB storage. Hayes at 14400 bps. No fee. Internet, Galactic Empire, chat, files. Your link to the world. For information: email sysop@comchat.com; or sign up via modem. Free access available in over 600 cities offering monthly or hourly rates. VISA and MasterCard welcome.

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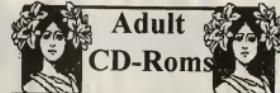
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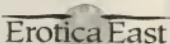
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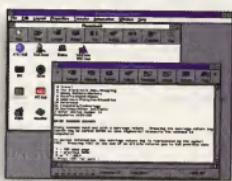
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DVORAK ONLINE

by John C. Dvorak

HOLLYWOOD NET AND TWO BBSCON — IT TAKES ALL KINDS

It's not bad enough that the Internet is getting all the attention of everyone, but now I'm beginning to see the world of the CD ROM and the nebulous world of "multimedia" joining with the Internet in some odd way.

This is going to further focus attention on both the Net and the multimedia scene. At least that's what I sensed when I attended one of those parties (which used to be called mixers) in San Francisco recently. It was the last Saturday of the month schmooze fest for people involved in the Internet and Multimedia. Held in a club smack dab in the middle of the San Francisco multimedia gulch it was different enough when compared to a BBS or computer industry event that I believe it marks a new sub-trend worth a study. It may or may not.

In addition to his weekly syndicated radio call-in show, "Software/Hard-talk," syndicated newspaper columns, magazine writing for *MacUser*, *PC Computing*, *DEC Professional*, *Information Technology*, and his featured "Inside Track" column in *PC Magazine*, Dvorak is the author of several best-selling books, including *Dvorak's Inside Track to DOS & PC Performance*, *Dvorak's Guide to PC Telecommunications*, and *Dvorak's Inside Track to the Mac*.

The most curious thing about this was that the technical knowledge level at this event was very low as the place was peopled by money guys, hustlers, used car types, musicians, actor wannabees and an array of know-nothings. And, much to my surprise, about half the people there were women! This stunned me as most industry events have the typical 5-10 per cent female attendance as the nerds drive them away in droves. Not this time. There seems to be enough pizzazz in the multimedia scene (and to a lesser extent in the Internet scene) that the non-technical females think it's kind of interesting. At least that's what I thought at first, but it turns out that most of them were hustling money just as were the used car dealers and other know-nothings. Every one had a CD ROM company doing this or that. When questioned about anything technical they'd shrug their shoulders and go on and on about how the Net and multimedia will revolutionize the world. They all seem to be reading *Wired* for their knowledge base — and it shows.

The fact that there is no channel, other than direct sales (aka mail order), for 95 per cent of all the CD-ROMs being produced is ignored. But they all talk a good game, to a point. The one interesting aspect to this was most of the women were attractive, which I found unique. In fact, what few nerds who did show up were actually driven away by the women! An ironic twist if ever there was one. It was quite a contrast to the 95 per cent mans event dubbed Two BBSCon that was held in Dusseldorf a month or so ago. At this event, the knowledge level was extraordinary and the few women who were there were sharp and frighteningly clued. The contrast between these two groups was chilling. The group in

Dusseldorf will have the long term influence (mostly thankless) while the group in San Francisco will appear to be the hip "in" crowd when in fact they are only on the make. I can't tell you how many times I was propositioned to do a Web Page for such and such a group. In fact everyone was doing Web Pages.

The Web Page phenomenon is getting a little out of control. Jack Rickard believes that many BBSs of the future will exist from a Web page gateway, and I think that this is a good possibility once the cyber cash idea gets a head of steam, and the BBS operators can slip their bill to a user as part of a bigger bill and thus harder to isolate. We'll have to see how all the online billing shakes out over time. Anyway, everyone is doing Web Pages and most of them are pretty useless. I think this may end as a payment system evolves. As a friend of mine said to me, "Gee, why should I write for a magazine for payment when I can post my material on the Internet for nothing?" This is ludicrous indeed. A number of Internet book writers and authors are bragging about how their book is on the Net free for nothing more than download time - I have to wonder what kind of idiocy is this? What's the point? A noble idea? Or weird egotism? A writer has to make a living. Free posts on the Net are a bad idea unless you want to finish your career in poverty. Still everyone is grabbing a spot on the Internet shelf as best they can.

Some thoughts on Two BBSCon. A number of folk are trying to duplicate the success of One BBSCon by holding a similar event in Europe. I attended, and it was well worth the trip just to see where the European community was insofar as improving connectivity. Two things were certain. The users are road blocked by the PTT (Postal Telephone and Telegraph) agencies each country maintains. Weird government monopolies with strange ideas. They pass all sorts of edicts to keep users from having a good and inexpensive communications system. They don't realize how much it hurts the competitiveness of the respective countries in the global economy. AND they won't listen to anyone regarding the situation. Meanwhile, they moan about how easy things are for the United States and Japan. An EC minister complained that we Americans also don't appreciate the fact that within the European Community and its big bureaucracy there are nine official languages and translations are time sinks.

Another arena where the Europeans lack competitiveness is in the new and modern way of doing business. This was pointed out to me when I was complaining about the site of the event. The hotel — the Swissotel in Neuss — was inconvenient. At night we all had to make our way into Dusseldorf over the Rhine if we wanted to get a good meal or a glass of the local brew, Alt bier. It turns out that throughout most of Europe the American model of a hotel with facilities for a convention/conference were negligible. Ironically, the Europeans, who are

some of the world's great Innkeepers, have an installed base of hotels and Inns that date back mostly hundreds of years in cramped cities where there is no room to expand. The quaint European burg that Americans relish to visit can't accommodate American-style events. The modern conference/convention has turned out to be a great way to do a lot of business over a short period of time. Very efficient. In Europe there is none of the versatility of the American hotel/convention centers and few big convention centers. Most American cities have a big convention

center. Not so in Europe. Instead there are a couple of monster sites that are horrendous and inefficient. Hanover comes to mind. Paris has the La Defense convention center but it's large and requires something the size of Interop to be used effectively. It's a big handicap. The few sites available that would handle a medium-sized event are booked years in advance. It seems that the Europeans are unable to cope with the handicap and are doing nothing to change things except anguish over the situation. ♦

DVORAK'S RECIPE NOOK

Thoughts on Salad Dressing

My wife and I had visited a friend's house and took a peek in his refrigerator. He was a bachelor and one can always expect an adventure when looking into the refrigerator of a bachelor. A dozen or more bottles of Salad Dressing! That's what was in there. Nothing else. Obviously the guy was into salads, but why so many bottles of pre-made dressing when it's effortless to make excellent salad dressing by hand? This triggered a discussion about bottled salad dressing. We concluded that bottled dressing is rather a low-brow and working class phenomenon. It stems from the 50's when women were taught that they can make their easier by opening a can. Now two, maybe three generations of women can't cook. The more recent resistance stems from a liberal belief that cooking demeans or stereotypes women for some odd reason. The end result of this thinking epitomized by miserable bottled salad dressing.

I recall visiting my Chicago-based relatives a few years back and they invited me to have something to eat. The concept of a salad was expressed and suddenly the table was cluttered with a bunch of bottled salad dressings. I had a choice. Gee, thanks.

This phenomenon carries over to less-than-elegant restaurants. It's actually a bad sign when they ask you, "What dressing would you like on your salad? Thousand Island, Blue Cheese, Italian?" If you go to any restaurant in France you are never given a choice. You get the best dressing the chef can prepare. Most good restaurants in the US do the same. I frequent Chez Panisse in Berkeley and they offer no choice of dressings. You get the best handmade dressing that they can make. Same for most of the top notch gourmet establishments around the world. Now before you read further, you may as well know that if you are in the category of person who goes to a restaurant and needs Blue Cheese dressing on the salad or requires the meat be overcooked or who drinks Diet Coke with a meal, you are NOT going to be interested in much of what I have to say. Places that offer a selection of salad dressings are never actual restaurants. They are eateries. And there is a difference. People who appreciate fine dining seldom frequent eateries. In my opinion, life is too short to waste it in such "joints" unless you are in the mood for a burger. The only thing positive about them is that the food tends to be inexpensive if not cheap. But it is never special nor something you couldn't easily do at home. ♦

VINAIGRETTE DRESSING

Which brings us back to salad dressings. The primary salad dressing used around the world is Vinaigrette with all its variations. At the base of those bottled dressings there is generally Vinaigrette. The difference between their Vinaigrette base and yours is that they use crummy bulk ingredients: cheap vinegar and tasteless oils.

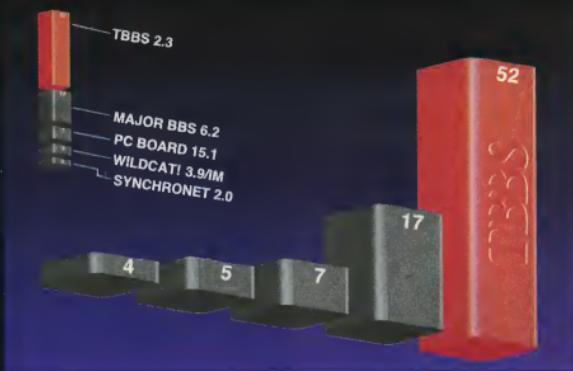
The basic Vinaigrette recipe is as follows: 1/2 cup of wine vinegar, 1/2 cup of good olive oil, a chopped shallot, salt and pepper. Shake or blend the ingredients. Use over salads or as a marinade.

Now having said the basics of Vinaigrette, let's discuss the details. Vinaigrette when made from expensive ingredients is perfect as is and needs no beefing up. There is no substitute for a great wine vinegar. Commercially I'd recommend the Sasso brand from Italy, especially the Tarragon flavored white wine vinegar. For a change of flavor try Balsamic vinegar, a wood-aged vinegar that has become very popular. The Olive oil is critical and you have to go through a lot of olive oil to find a good fruity one with olive flavor. Always look for something labelled Extra Virgin. The big monster olive oil houses such as Bertolli and Star do not, in my experience, make as good tasting an olive oil as a smaller company. Experiment. The bottled dressings will use horrible coconut and palm oils which are just plain unhealthy.

I've had vinaigrette where finely chopped garlic was substituted for the shallots and the result is spectacular but with the typical garlic side-effects — you stink the next day. People also like to add herbs to vinaigrette. Some people put in honey, mustard or both. Experiment. You want a so-called French dressing? That red stuff? Add ketchup and you have it. Not to my taste but you'll see. Want Blue cheese dressing? Add some mayonnaise and chopped blue cheese to vinaigrette and you have it. You can easily duplicate any bottled salad dressing with this base. Once you get your favorite vinegar and oil, though, the vinaigrette with no weird alterations will probably become a staple and something that distinguishes you from the million people (who can't cook) that serve Krafts. If someone comes over and wants a bottled dressing, throw them out. ♦



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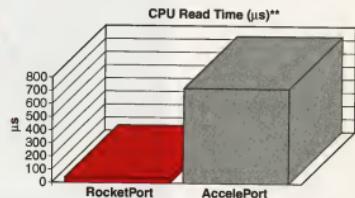
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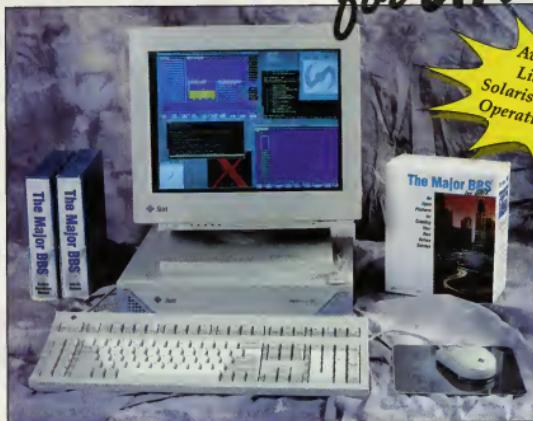
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